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Boston University

BOSTON UNIVERSITY
SARGENT COLLEGE OF HEALTH AND REHABILITATION SCIENCES

Doctoral Project

**PLAY 4 PARENTS:
A TRAINING GUIDE TO ENHANCE PARENT PARTICIPATION IN PLAY**

by

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PLAY 4 PARENTS:
A TRAINING GUIDE TO ENHANCE PARENT PARTICIPATION IN PLAY
JULIE MORGAN YARONI

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Therapy

ABSTRACT

Children with autism spectrum disorder (ASD) often experience significant challenges with play, thereby affecting their development of language skills, emotional development, cognitive development, and social connections with others (Freeman & Kasari, 2013). Parent-child relationships influence many aspects of a child's life including participation in joint play, which is when two or more individuals are playing together (Waldman-Levi, Finzi-Dottan, & Cope, 2019). There are several factors hindering parent participation in play including knowledge of play, understanding of sensory processing and its impact on play, communication during play, and mindful parenting.

The following chapters discuss the evidence and theories supporting the development of the proposed program, Play 4 Parents. Play 4 Parents is an in-person group training program designed to enhance play skills of parents of children with ASD. The program uses a variety of teaching strategies, such as direct teaching, strategy practice, and at home hands-on practice. Through program participation it is anticipated that parents will gain an increase in parental sense of competence, a decrease in perceived stress, and improvements with parent-child play interactions.

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LIST OF ABBREVIATIONS

ASD Autism Spectrum Disorder

BU Boston University

DIR..... Developmental, Individual, Relationship

OTOccupational Therapy

CHAPTER 1: INTRODUCTION

Background

By age eight, one in 59 children nationally is diagnosed with autism spectrum disorder (ASD) (Autism Speaks, 2018). ASD is a developmental disability that can lead to social, communication, and behavioral challenges (Center for Disease Control and Prevention, 2019). Challenges within these specified areas affect the play skills of children with ASD. For instance, individuals with ASD engage in more routine and repetitive play and experience challenges participating in higher levels of play, such as symbolic play (Freeman & Kasari, 2013). Children with ASD tend to initiate and respond to play interactions less frequently than typically developing peers (Childress, 2011). Since parents can adapt their play level to meet their child's current skill level and parents and children spend a large amount of time together in the early years, parents can play a vital role in assisting in play development.

The Problem

This program aims to improve the ability for parents of children with ASD to act as effective play partners to their children. A review of the literature identified several factors that affect parent participation in play. Contributing factors include, but are not limited to, mental health challenges and difficulty communicating effectively during play. Parents of children with ASD experience greater levels of stress and fatigue which can negatively affect the parenting experience and decrease parents' patience when engaging with children (Giallo, Wood, Jellett, & Porter, 2011). Parent-child play is also affected by how parents respond and communicate to their children during play. For example,

parents of children with ASD have difficulty playing at the same level as their child and tend to direct play more which leads to shorter play interactions (Freeman & Kasari, 2013). Parents of children with ASD also require assistance in interpreting and responding to their child's nonverbal communication (Siller, Swanson, Gerber, Hutman, & Sigman, 2014). Factors contributing to challenges parents face when participating in play are discussed further in [Chapter 2](#).

Implications of the Problem

The quality of parent-child play interactions can emotionally and physically affect both the parents and child with ASD. Play is the main occupation of children and assists in their development in many other areas of life. Difficulty engaging in play can affect the development of cognitive skills and communication (Lee et al., 2016), as well as social communication skills, self-regulation, and problem-solving (Dammann, Althoff, Hope, & Ausderau, 2017). A child's ability to engage in play can be impacted by sensory processing challenges. Roman-Oyol, Reynolds, Soto-Feliciano, Cabrera-Mercader, and Vega-Santana (2017) found that children with ASD have a significantly higher prevalence of sensory modulation challenges, which impacts their participation in daily activities. In order to support children in activities such as play, parents may require assistance to better understand the child's sensory processing needs. Parent-child play interactions affect the relationship and connection between parent and child and when the play interaction is strong it can lead to parents perceiving a higher level of attachment behaviors (Siller et al., 2014).

Role of Occupational Therapy

There is a need for healthcare professionals to support the relationship between parents and their children with ASD. Occupational therapy practitioners focus on helping individuals engage in meaningful and daily activities. For children, play is one of these activities, and happens to heavily involve their parents' participation. Children with ASD can have difficulty engaging in play successfully and can benefit from techniques and skills taught by occupational therapists. Children with ASD require more assistance to develop play skills, and it is therefore imperative that parents are taught the skills and techniques to generalize play development outside of therapy sessions.

Proposed Solution

The following chapters will discuss in detail the theories and evidence that support the development of the proposed parent-training program, Play 4 Parents. The five-week in-person program consists of four main teaching elements: (1) education, (2) video review, (3) activity practice & discussion, and (4) homework. More information about program format can be found in [Chapter 2](#) and [Chapter 3](#). Through participation in the program, it is anticipated that parents will report an increase in parental sense of competence, decrease in parental stress, and improvements with parent-child play interactions.

CHAPTER 2: THEORETICAL AND EVIDENCE TO SUPPORT THE PROJECT

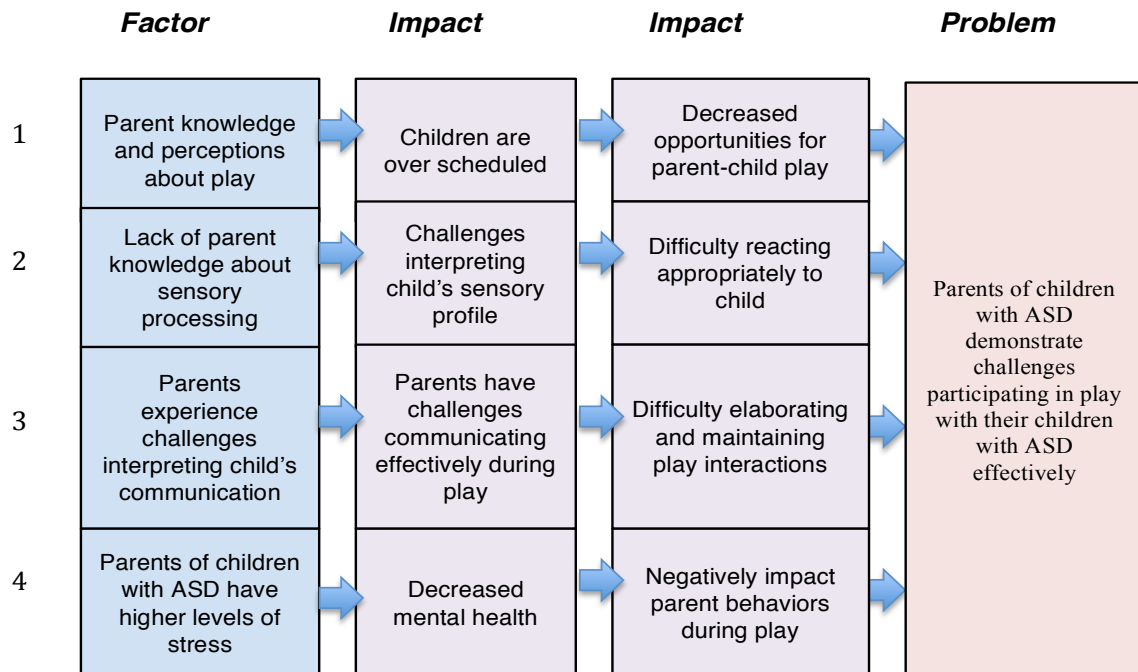
Overview of the Problem

Parents can play a vital role in assisting in child development through engaging in play opportunities with their child, but parents of children with autism spectrum disorder (ASD) may lack the competence and confidence to act as effective play partners. Children with ASD demonstrate greater challenges participating in play compared to typically developing children and often engage with objects in repetitive ways and have difficulty developing new and creative ways to use objects (Freeman & Kasari, 2013). Due to the social challenges associated with ASD, these children may have trouble learning through observation or direct engagement with their peers. During preschool years, parents can (and should) play a significant role in assisting with play development. However, there are several factors hindering parents' ability to act as effective play partners. A review of the literature will further elaborate on these factors, which include understanding mindful parenting, the role of play, sensory processing, and communication.

Explanatory Model

Figure 2.1 is an explanatory model that visually represents the factors contributing to the problem of parents of children with ASD having difficulty acting as effective play partners for their children with ASD.

Figure 2.1 Explanatory Model



Factor One: Parent Knowledge and Perception on the Role of Play

While research has identified several benefits to play, including gross motor skills, social skills, decreased stress, and executive functioning skills (Yogman, Garner, Hutchinson, Hirsh-Pasek, & Golinkoff, 2018), parents tend to overschedule their children rather than provide time for free play opportunities. According to Watchman & Spencer-Cavaliere (2017), factors contributing to limited child free play include misguided parental perspectives, pursuit of winning, overscheduled lifestyles, and over-protection. When considering families of children with ASD and other disabilities, the parents likely overschedule children due to the pressure of providing therapeutic services. Through clinical interactions with families, the author has noted that many children are scheduled with school and therapeutic services from the time they wake up until they go to bed.

Considering this and the time parents spend working, there are limited opportunities for parent-child play interactions. By increasing parent knowledge on play, perspectives on free play can be altered, leading to increased time spent in parent-child play.

Factor Two: Parent Knowledge and Understanding of Sensory Processing

Sensory processing refers to how an individual's nervous system receives, interprets, and responds to sensory information. According to Miller (2014), sensory processing can be broken down into three subcategories: sensory modulation disorder, sensor-based motor disorder, and sensory discrimination disorder. Parents' knowledge of this information and understanding of their child's specific sensory profile impacts how they perceive their child's actions and then respond to the situations. Parents' understanding of their own sensory profile is also important because it allows them to understand how and why they react in certain ways during play. Sensory modulation can be described as the amount of sensory input that a child can handle (Miller, 2014). For instance, some children may appear sensitive to music and sounds and cover their ears, while other children may not be aware or respond to the input. If a parent is unaware of the child's nonverbal signals, such as the child putting his/her head down due to being overwhelmed by the environment, then the parent may not respond in the correct manner. Sensory discrimination is the ability for individuals to distinguish specific sensory information (Miller, 2014), such as location of sound, type of tactile input, and amount of hunger. A child with challenges discriminating proprioceptive information may utilize too much force when playing with siblings. If parents are unaware of this foundational challenge, then they may become irritated and angry with the child rather than provide

strategies or engage in games that help the child understand how much force the body is using. Finally, sensory-based motor challenges include difficulty with postural control and/or dyspraxia. When a child plays alone, parents may think that is the child's preference, when actually the child is playing alone due to challenges with praxis, such as planning and organizing ideas. According to Kuhaneck & Britner (2013), "Social play in particular may require strong praxis skills for children with ASD because they must negotiate rapid changes in play schemes and introduction of novel play ideas from others" (p. 160). By helping parents understand how their child interprets sensory information, parents can be more effective at creating an environment conducive for optimal interactions and play opportunities. It can improve how the parent responds to the child during play, which can lead to improved parent-child play interactions.

Factor Three: Parent Communication During Play

Many children with ASD experience a delay in speech development and may depend heavily on non-verbal communication techniques. A parent's ability to recognize and interpret non-verbal communication can impact how the parent responds to the child, therefore having a direct impact on the development of the parent-child relationship and parent's ability to maintain reciprocal interactions with the child. For instance, a child may provide an opportunity for interactions through a moment of eye contact, however, if the parent does not recognize that moment, then the amount of reciprocal communication is limited. One aspect impacting parent-child communication may be perceived child attachment. According to Bowlby's Attachment Theory, the key principles of this theory include continuous presence, maternal sensitivity, and secure base (Van Rosemalen, van

der Horst, & Van der Veer, 2016). Based on these principles, if a parent is continuously around their child then they can identify when a child is upset or distressed and respond appropriately to the child's needs. Due to social differences with ASD and the child's unique sensory profile, children with ASD may not seek out assistance when distressed and may respond in an unexpected way to a parent's attempt to communicate. For example, if a child is sensitive to touch and a parent picks up the child to comfort, while it was meant to be a soothing action, the child may demonstrate a negative reaction such as increased crying rather than calming down. If parents do not interpret the child's needs and respond in a manner that the child views as positive, it may be difficult to develop a trusting parent-child relationship and affect the parents' ability to effectively communicate to the child.

Parent-child play and the length of circles of communication can also be affected by the types of communication and actions used by parents. Circles of communication can be verbal or nonverbal methods of maintaining reciprocal communication. According to the DIRFloortime model, when interacting with children it is important to consider the specific child's developmental level and individual differences, which includes understanding the child's sensory system and using this relationship to help the child meet his/her goals. Based on this model, parents can improve their relationship with their child by engaging in developmentally appropriate activities that address the child's specific needs (Greenspan & Wieder 2006). Quality and length of communication between parent and child can alter based on how the parents interact with their children. A study by Freeman & Kasari (2013) found that imitation can improve

play interactions and increase reciprocal communication while utilizing commands shortens play interactions. The study found that parents of children with ASD use more commands, while parents of typically developing children imitate actions more. Differences between how mothers and fathers interact with their children have also been noted. Flippin & Watson (2011) found that mothers of children with ASD often respond to children verbally, while fathers respond with a play-based response. Responding with a play response, such as jumping with the child, can lead to children demonstrating higher levels of play. Through education and practice, both mothers and fathers can develop the skills and confidence to use communication strategies that promote longer back and forth interactions with their child.

Factor Four: Mindful Parenting

Parents of children with ASD experience higher levels of stress and mental fatigue, which impacts their ability to be present in the moment when engaging in parent-child play opportunities. According to Conner & White (2014) “Parental stress is defined as an aversive or negative reaction to parenting, influenced by the parenting-specific demands, parental well-being, the parent-child relationship, and the child characteristics” (p. 617). Research has found that there are several contributing factors to perceived stress including depression, mindful attention, physical and mental health, fatigue, and perceived child attachment (Connor & White, 2014; Falk, Norris, & Quinn, 2014; Giallo et al., 2011; Johnson, Frenn, Feetham, & Simpson, 2011; Shawler & Sullivan, 2017). Additionally, research has found a correlation between severity of autism symptoms and parental stress. When comparing stress amongst mothers and fathers of children with

ASD, Johnson et al. (2011) found that mothers perceive higher levels of stress. Parenting sense of competence has been found to be correlated with children's sensory processing skills. Cohn et al. (2011) found that when children demonstrated lower responsivity, such as not responding to their name, parents had lower levels of competency and satisfaction. Due to increased stress levels parents may demonstrate less motivation to engage in play, challenges focusing on the current moment, and a decrease in patience during play. By providing parents with an awareness of mental health factors and strategies to improve mindfulness, parents can become stronger and more effective play partners.

Evaluation of Evidence Supporting the Explanatory Model

The data previously presented included studies from the United States between 2007–2019. When considering the demographics of participants included in the studies, the majority were Caucasian families, primarily mothers, and most of the children were boys. Families were primarily from middle socio-economic status. This can limit the generalizability of the information gathered. Common methods of data collection included video review and parent assessments. Video review was only used when children were directly part of the study. Parent assessments can be beneficial by providing insight into how a parent perceives a situation, but also contains a level of bias. A range of research has been conducted on play skills of children with ASD and parents of children with ASD, but limited research has been found connecting how both child factors and parental factors impact the play relationship.

Evidence suggests that by addressing parental factors and providing strategies to

decrease stress, increase awareness in the present moment, and increase understanding of sensory processing and communication styles, parents can alter their engagement during play interactions. Through the changes parents make, children will be able to better respond and expand play skills. If parents experience improvements in parent-child play, they will perceive higher levels of parental competencies and improved parent-child relationships.

Interventions

Parents' ability to play effectively with their children with ASD is affected by several factors including higher levels of stress (Singh et al., 2019), decreased knowledge of sensory processing (Gee & Peterson, 2016), parent perception of play (Watchman & Spencer-Cavaliere, 2017), and communication barriers (Shire, Gulsrud, & Kasari, 2016). A variety of interventions have been conducted addressing parental stress, parental education, and parental participation in interventions.

Mindfulness Interventions

Compared to parents of typically developing children, parents of children with ASD experience higher levels of stress, which has negative impacts on themselves and their children. Parents of children with ASD have reported decreased quality of life and greater depression (Cachia et al., 2016). According to Dykens, Fisher, Taylor, Lambert, and Miodrag (2014), high levels of stress decrease parents' ability to implement intervention strategies at home causing children to demonstrate greater challenges making developmental progress. Parental stress not only impacts the child but also has negative effects on parental mental and physical health (Singh et al., 2019). The goal of

mindfulness-based interventions is to alter the way individuals experience negative emotions (Lunsky et al., 2017).

Six articles, including one systematic review, assessed the impact of mindfulness interventions on parents of children with ASD. The systematic review by Cachia, Anderson, and Moore (2016), included ten studies with a total of 142 parents of children with ASD. The age of parents ranged from 24 to 66 years old, and most participants were female. All ten studies analyzed a component of stress, such as perceived stress or physiological signs of stress. Common strategies incorporated in the mindfulness interventions within the systematic review included breathing techniques, awareness of bodily sensations, non-judgmental acceptance, and observing behaviors. Following participation in mindfulness-based interventions, parents experienced a decrease in depression, decrease in physical signs of stress, and improvements in quality of life. Along with positive parent outcomes addressing parent mental health needs have been found to also have positive effects on their children, such as decreased aggressive behaviors and an increase in compliance.

Most mindfulness interventions incorporated a group aspect and provided opportunities to practice mindfulness techniques. Long-term improvements with stress were found when parents practiced mindfulness strategies in their daily lives (Dyken, Fisher, Taylor, Lambert, & Miodrag, 2014 & Singh et al., 2019). Singh et al. (2019) and Singh et al. (2007), both identified benefits to mindfulness interventions, such as decreased stress when participants had three formal trainings, but extended time to practice and implement strategies into their daily lives. It can be assumed that creating a

daily routine with mindfulness strategies is more beneficial than extended formal training.

Lunsky et al. (2017) compared the effect of a mindfulness intervention to a support/information group for parents of adults with ASD and other developmental disabilities. The intervention took place in Toronto and included a total of 50 participants, with most participants being female and married. The mindfulness-based intervention focused on teaching meditation techniques while the parent support and education group focused on helping parents locate adult services, respite care, and other resources. Although participants in both groups expressed satisfaction with the intervention, parents in the mindfulness-based intervention experienced greater improvements with physiological distress, which were maintained at 20 weeks post intervention. Therefore, while gaining increased knowledge is important, learning how to implement strategies for stress management in their daily lives is more beneficial in the long run.

Parent-Mediated Interventions

Children with ASD typically require a large number of therapeutic services, which can be time consuming and expensive. Parent mediated interventions have been found to reduce transportation barriers, be less expensive, assist with generalization of skills, and lead to improved maintenance over time (Dammann et al., 2017). Parent mediated interventions typically focus on increasing parental responsiveness and often include the parents, child, and interventions (Shite et al., 2016).

A systematic review by Dammann et al. (2017) assessed 13 articles based on parent-mediated interventions, including 12 randomized control trials. Studies occurred

either at home, in a clinic, or via telehealth. Key strategies used in the parent-mediated interventions included modeling of therapeutic strategies, coaching, feedback, and individualized strategies. Positive results were found for both parents and children. Parents demonstrated a decrease in stress and increase in self-efficacy. The children in the study had an increase in communication and play skills, and a decrease in autism symptoms, such as social affect.

Shire et al. (2016) and Siller, Hutman, and Sigman (2013) assessed the impact of parent mediated interventions on parent responsiveness. According to Shire et al. (2016) responsive parenting is defined as the ability to notice and act on the child's interests, communication, and body language. Research has found that responsive parenting leads to the child spending more time in joint attention and engagement in shared activities (Shire et al., 2016), as well as improvements in language development (Siller et al., 2013).

Siller et al. (2013), Shire et al. (2016), and Kasari, Gulsrud, Paparella, and Hellemann (2015) compared interventions that incorporated a therapist, parent, and child, to a parent education intervention. Programs that included the parent and child were found to increase parent reported attachment behaviors (Siller et al., 2013), child-initiated engagement, increased parent-responsiveness (Shire et al., 2016), and increased joint attention (Kasari, 2015).

Two studies reviewed the effects of Developmental, Individual-Difference, Relationship-Based Intervention (DIR). The purpose of DIR is to promote holistic development in individuals with ASD while fostering relationships between parent and

child (Praphatthanakuwong, Kiatrungrit, Hongsanguansri, & Nopmaneejumruslers, 2018). Key components of DIR include identifying the child's social-emotional developmental capacities, understanding the child's specific sensory profile, and educating parents. Common strategies for coaching parents included modeling, providing parents with opportunities to practice strategies, and providing feedback (Pajareya & Nopmaneejumruslers, 2011). Participation in DIR can increase both parental and child engagement (Pajareya & Nopmaneejumruslers, 2011; Praphatthanakuwong et al., 2018). Additionally, when parents had greater knowledge of DIR they demonstrated higher levels of engagements (Praphatthanakuwong et al., 2018). To best support parents it is essential to provide them with both knowledge and opportunities to practice strategies.

One study in India analyzed the impact of a parent-child intervention program based on narrative reflections from the parents (Brezis et al., 2015). The program focused on mothers and their children, with additional data from the fathers. After participating in the program mothers spoke differently of their children. They stopped comparing their children to others and were better equipped at identifying strengths in their children. Fathers spoke less of their child and more about the relationship with their spouse. This may be due to spending less direct time with their child and not participating directly in the intervention process.

Parent-Training and Education Interventions

While parent-mediated interventions often focused on the child as the main component and occasionally included parent-training, several studies analyzed parent-

training and education without the presence of the child. According to Black and Therrien (2018), 80% of parents of children with ASD express limitations engaging in family activities, including social, recreational, and leisure events. Parents of children with ASD experience higher levels of stress, as well as lower levels of parenting competence (Zand et al., 2018). Parenting competence incorporates parental self-efficacy, which is the belief that an individual can perform necessary parenting tasks successfully (Zand et al., 2018). Parent-training and education interventions have been implemented in order to assess their impact on parenting stress, parenting self-efficacy, as well as secondary impacts on the child with ASD.

Black and Therrien (2018) analyzed 15 parent-training studies focusing on various social skills or cognitive behavior therapy interventions. The interventions were delivered to children with ASD; however, they also included a parent-training portion. The parent-training program occurred approximately once a week, lasting 60–90 minutes. A variety of strategies were used during the parent-training portions, such as lectures, homework, practice or role-playing, and video review. The author reports positive results of incorporating parent-training were found, but specific benefits and details about parent-training were not described. Zand et al. (2018) studied the impact of parent-training programs on parents who had a child receive a diagnosis of ASD within a year of the study. The authors found that after four individual meetings with parents, parents reported less stress and less child disruptive behavior.

Group-based parent education programs have been shown to have several benefits for parents of children with ASD. Improvements include an increase in self-efficacy

(Gee et al., 2016 & Zhou, Yin, Wang, & Wang, 2019), an increase in parent competence (Kuravackel et al., 2018), and decrease stress and anxiety (Zhou et al., 2019). For example, a study by Gee et al. (2016) found that when parents participated in an educational group program on sensory processing differences, they demonstrated significant improvements on self-perceived sensory processing knowledge. Group-based interventions were also found to have positive secondary outcomes for children with ASD. When comparing the same intervention provided in a group setting versus individually via telehealth Kuravackel et al. (2018) found that there was a decrease in child problem behaviors.

Magaña, Lopez, & Machalicek (2017) analyzed the impact of a parent education program specifically on Latino parents of children with ASD. The program occurred in a 1:1 setting at the participants' homes and followed a specific manual. Topics included information on autism advocacy, understanding the system, as well as specific interventions. Following participation in the intervention, mothers reported a significant increase in knowledge of ASD, better understanding of the child's needs, and increased understanding of support systems and interventions available.

Intervention Characteristics and Future Implications

A variety of interventions have been conducted on parents and children with ASD with a focus on parent mindfulness, parent education, and parent-training. Research review encompassed a range of studies including at least seven randomized/randomized control trials, three systematic reviews, five pilot or exploratory studies, as well as other studies.

Interventions used a range of teaching approaches, including parent coaching, education, and practice of strategies. When parents were the focus of the interventions, benefits were found for both the parents and their children. Interventions occurred in both group and individual settings. Interventions that focused on working with the parent and child at the same time more commonly occurred in individual settings, while interventions focusing on education and mindfulness occurred in small groups. Additionally, interventions primarily occurred in person, rather than virtually. A wide range of assessments were used to gather data. Common assessments used included the 14-item version of the Depression Anxiety Stress Scale and the Parenting Stress Index. Several studies also used video review to assess parent-child interactions. Although interventions varied in intervention approach and purpose, it appears beneficial to incorporate both an educational aspect and a practice component in order to help parents feel more comfortable implementing strategies at home, outside of sessions.

There are several limitations to the studies provided. Regarding demographic limitations, participants were primarily Caucasian, mothers, of higher socio-economic status, and married. Most studies included smaller sample sizes. For example, the systematic review by Cachia et al. (2016) included mindfulness based-interventions studies with as few as three participants. Overall, due to the limitations discussed, it may be difficult to generalize the outcomes of the studies to larger and more diverse populations.

Although research has found that parents of children with ASD demonstrate higher levels of stress and that there are both parent and child benefits to mindfulness

interventions, a mindfulness component was not provided in parent-mediated interventions, parent-training programs, or parent education programs, unless it was a specific mindfulness intervention. When parents become active participants in an intervention, they take on the role of both the parent and interventionist, therefore, it is hypothesized that there is an increase in stress when managing additional responsibilities, such as implementing intervention strategies at home. Future interventions that incorporate parent-training should include mindfulness aspects to help parents manage the additional stress.

Proposed Program

The proposed intervention will incorporate aspects from all three intervention styles by educating parents on specific topics, providing strategies to help improve parent-child play interactions, providing reflective discussions, and gaining practice using mindfulness techniques. The purpose of the program is to help parents become more confident and competent when engaging in play with their child, by teaching them be more responsive and aware of aspects that impact play interactions.

Setting and Participants

Most of the research analyzed included in-person interventions rather than tele-health sessions. Research has found several benefits to group-based in-person parent programs, such as increased self-efficacy (Gee & Peterson, 2016) and increased parental competency (Kuravackel et al., 2018). Due to these benefits Play 4 Parents will occur in-person, in a small group format. The in-person group setting will provide opportunities for parents to develop a sense of community, promote group collaboration and support,

and provide opportunities to gain direct support when learning and practicing new skills. Since the author is based in Colorado, participants will be recruited from there. In order to widen the demographics of participants and be more representative of families with children with ASD, participants will be recruited from various occupational therapy clinics in the area.

Program Length

Typically, sessions in previous studies lasted between one hour to two hours per session and ranged from two weeks to several months. The proposed program will occur in a group setting and for five weeks, with a two-week break between week four and week five. The purpose of this is to have one teaching topic a week and a final week to review all four teaching modules.

Program Format

The first four weeks will focus on teaching parents about specific factors affecting parent-child play interactions. The final fifth session will primarily focus on content review and strategy practice. Each session will last one hour and consist of four core elements: (1) education, (2) video review, (3), activity practice, and (4) homework.

Education. Each week participants will have the opportunity to focus on a specific factor affecting parent-child play. Educational topics will include the importance of play and play differences for children with ASD, sensory processing and its impact on play, strategies to communicate effectively during play, and the importance of being mindful during play.

Video review. Video review will provide parents the opportunity to visualize how to use therapeutic strategies effectively to promote play engagement when interacting with their child. Parents will have the chance to identify strategies that improve parent-child play interactions, as well as strategies that limit engagement.

Activity practice & discussion. Through simulated activities, parents will work with one another to practice techniques and manage interactions in different play situations. Additionally, group discussions will allow parents to problem-solve together, support one another, and collaborate on strategies to improve parent-child play interactions.

Homework. In order to help generalize knowledge to the home environment and directly practice techniques with their children, parents will be provided with weekly homework assignments. Assignments will focus on specific strategies to practice, opportunities to reflect on play interactions, and problem-solve how to approach play interactions in the future.

Teaching Modules

The program will be broken down into four teaching modules. The modules will include the role of play, sensory processing, communication techniques, and mindful parenting.

Role of play. The first module will focus on the role of play. This will include why play is important and skills that play helps promote and develop.

Sensory processing. The module on sensory processing will focus on educating parents on the eight sensory systems. This section will also touch upon how sensory

processing impacts participation in play.

Communication. The module on communication styles will emphasize techniques parents can use to increase back and forth communication with their child during play interactions. Strategies will include the purpose of imitation, narration, and non-direct questioning. Additionally, this section will address interpreting the child's communication, both verbal and nonverbal, in order to respond appropriately.

Mindful parenting. Mindful parenting will educate parents on how being present can be beneficial for both the parent and the child. Parents will also have a chance to practice different mindfulness strategies to help increase stress awareness and become present in the moment.

Interventionists

The program will be run by an occupational therapist with training in sensory integration, relationship-based therapy, and mindfulness. Graduate students or other occupational therapists not directly involved in the administration of the program will assist with scoring and analyzing the data.

CHAPTER 3: DESCRIPTION OF PROPOSED PROGRAM

Program Purpose

Children with ASD often experience significant challenges with play affecting the development of language skills, emotional development, cognitive development, and social connections with others (Freeman & Kasari, 2013). Parents can play a vital role in assisting in child play development due to their ability to act as a more skilled play partner and the large amount of time parents and children typically spend together during the earlier years. However, there are several factors hindering parents' ability to act as effective play partners, including high levels of stress (Cachia et al., 2016) and challenges with communication during play (Freeman & Kasari et al., 2013).

In order to support parents and their ability to act as competent and effective play partners, Play 4 Parents addresses the needs of the parents through an in-person group-based parent education and training program. In order to promote group collaboration, the ideal group will be six to eight participants who can attend all five weeks of the program. Play 4 Parents will be broken down into four modules: the role and importance of play, understanding sensory processing and its impact on play, communication strategies during play, and mindful parenting. While interventions have addressed these factors separately, limited research has included a combination of education, skill acquisition, and stress management components. Following the conclusion of the program it is hypothesized that parents will feel more competent engaging in play with their child and will report a decrease in perceived stress.

In order to provide parents a chance to collaborate with one another and practice

skills prior to applying them directly with their child, the program will be for parents only and no children will be in attendance. Parents will have the opportunity to work with peers during simulated activities where they can role-play real life events they experience with their children. This will allow them to practice different scenarios and outcomes and problem solve with one-another. To help parents become comfortable and confident using skills gained in the trainings, parents will be provided with weekly activities to complete at home. Strategies chosen to help teach and educate parents were taken from previous research. These include taking the strengths from parent implemented interventions, parent-training interventions, and parent education-based interventions. A common theme identified in all three types of studies was the concept of learning, retaining, and implementing skills into daily life.

Program Delivery

The proposed program will be led by an occupational therapist who has training in relationship-based therapy (i.e. DIRFloortime), sensory integration, and mindfulness. The program will consist of five group sessions each lasting one hour. The first four sessions will each focus on a different weekly topic in order to address the following factors impacting parent-child play interactions: the role of play, sensory processing and its impact on play, communication strategies during play, and mindful parenting. The final fifth session will occur two weeks after the fourth session and will focus on reviewing information, clarifying questions, and reflecting on how parents have been implementing the strategies at home during parent-child play interactions. Table 3.1 describes a summary of weekly topics and concepts that will be taught. A more detailed

description of weekly topics including learning objectives and methods of teaching can be found in [Appendix E](#).

Table 3.1

Description of weekly topics

Weekly topic	Concepts
The role of play	<ul style="list-style-type: none"> ▪ Why play is important ▪ Types of play ▪ Parents' role during play
Sensory processing & play	<ul style="list-style-type: none"> ▪ The 8 sensory systems ▪ Sensory processing & its effect on play ▪ Strategies to adapt the environment and activities
Communication during play	<ul style="list-style-type: none"> ▪ Verbal vs nonverbal communication ▪ Strategies to promote back and forth communication
Mindful parenting	<ul style="list-style-type: none"> ▪ Mindful parenting ▪ Responsive parenting ▪ Strategies to decrease stress
Review	<ul style="list-style-type: none"> ▪ Review previous weeks ▪ Answer questions

Basis of the Program

Play is an essential occupation for children and impacts the development of skills such as language, self-regulation, and problem solving (Dammann et al., 2017). Children with ASD experience challenges developing play skills and engage in more repetitive play, spending less time in pretend play than their typically developing peers (Dammann et al., 2017). Due to the social challenges that children with ASD experience, and the large amount of time children spend at home, children can improve their play skills and skills developed through play by engaging in play with their parents. In order to participate in play effectively, it is hypothesized that parents must be present in the

moment and free of distractions, interpret and respond to the child's actions appropriately, and understand the role of play and how a child's sensory system can impact participation in play. In terms of stress, parents of children with ASD have been found to have higher stress levels, parental burn out, and a sense of feeling isolated (Cachia et al., 2016).

While research has separately assessed the impact of mindfulness interventions, parent education interventions, and parent-training, there has been limited research found of studies that combined different aspects of each intervention into one program.

Play 4 Parents plans to incorporate aspects of all three previously mentioned intervention approaches. The program will use strategies that have been found to increase parent knowledge and skills, such as video review, hands on-practice, and homework (Siller et al., 2014). Although Play 4 Parents will not have children present, parents will still have opportunities to practice strategies with their peers. Weekly assignments to complete outside of training sessions will be given in order to help parents incorporate strategies at home and reflect on parent-child play interactions. Additionally, common strategies and learning topics incorporated in mindfulness-based interventions will also be included. This includes strategies such as exploring mental states and emotions, body scanning, and contact with the present moment (Cachia et al., 2016). More information about specific program content can be found in Table 3.1 and

[Appendix E.](#)

Data Collection

In order to assess the effects of the intervention, data will be gathered at three different times during the program. Data will be gathered prior to starting the program,

after the fifth session, and one month following the fifth session. The purpose of this is to identify if there is a change in parent perceived sense of competence and stress levels following the teaching portion and after parents have a chance to implement strategies for an extended period. Additionally, it will help identify if any changes need to be made in the program for future implementation.

In order to analyze results of Play 4 Parents and identify outcome changes, a combination of quantitative and qualitative data will be gathered. In order to identify parental sense of competence, the Parental Sense of Competences scale, PSOC, will be used. The PSOC is a 17 question self-report measure that uses a six-point Likert scale. The PSOC assesses two components of parental sense of competence, including satisfaction and efficacy (Cohn et al., 2011). In order to assess parental stress, the Parenting Stress Index fourth edition, PSI-4, will be used. This assessment screens for stress within the parent-child relationship (Abidin, 2018). Additionally, the author has created a questionnaire that focuses on parent knowledge of play and perceived stress during play interactions. This survey consists of both Likert scale options and open-ended responses. Pre-test and post-test open ended survey questions will differ in order to assess what parents hope to get out of the program and what they have learned. Examples of this survey can be found in [Appendix E](#), facilitator manual draft.

Play 4 Parents Program Personnel

Program Funder

The program funder will oversee the process of identifying and gathering funding for all overhead costs, including, but not limited to, materials and location funds.

Additionally, this individual will oversee identifying a location to implement the program.

Program Facilitator

The program facilitator will oversee making sure all communication between the program funder and the program implementer is completed.

Program Implementer

The proposed program will be implemented by an occupational therapist with training in sensory integration, DIR/Floortime, and mindfulness.

Data Collector

Data will be collected and analyzed by two occupational therapy graduate students.

Program Volunteers

Volunteers will consist of high school or college students who will assist in childcare during the duration of the program. This will guarantee that parents can attend the sessions without their children present and without the added stress of having to find alternate childcare.

Recipients of the Program and Recruitment

Participants in the program must be parents of at least one child with ASD. The child must be between the ages of two to eight years old. Parents must be able to read and speak English.

Due to the author being based in Colorado, participants will be limited to the Colorado area, or must be visiting Colorado for the entire duration of the program. In

order to recruit participants, flyers describing the program will be offered at various occupational therapy clinics in Colorado, as well as online platforms. The purpose of recruiting from various clinics as well as online platforms is to promote a range of participants with various backgrounds.

Desired Outcomes of the Program

The main outcome being assessed by the program is improved parental perceived sense of competence in play, including increased confidence in participating in reciprocal play with their child. A secondary outcome that will be measured is parental perceived stress. Research has found that parents who participated in mindfulness-based interventions and psychoeducation interventions experienced a decrease in stress and depression (Cachia et al., 2016 and Zhou et al., 2019), as well as an increase in parenting self-efficacy (Zhou et al., 2019). It is hypothesized that combining features of education, hands on training, and mindfulness training, parents of children with ASD will demonstrate an increase in parent perceived sense of competence, as well as a decrease in perceived stress.

Potential Barriers and Challenges

In order to successfully implement the program, Play 4 Parents, several potential barriers must be considered. For example, one potential barrier is parents' ability to attend all five sessions. Due to childcare challenges and other parenting responsibilities, parents may have a difficult time attending all five weeks of the training program. There are several barriers and challenges that may occur throughout the program. Table 3.2 describes potential barriers and proposed solutions.

Table 3.2*Potential program barriers*

Potential Barriers	Proposed Solution
Program Funding	<ul style="list-style-type: none">-Apply for local, state, and federal grants-Propose program to be implemented at the author's current employment center with their financial support-Request donations for materials, such as toys for simulated activities, from local clinics, friends, and community centers
Attendance	<ul style="list-style-type: none">-If possible, provide on-site childcare for the duration of the program-Provide small incentive for attending the entire program-Provide refreshments
Poor compliance with homework and group participation	<ul style="list-style-type: none">-Incorporate motivating games/activities, such as group Jeopardy, in order to increase participation.-Provide positive reinforcement in order to increase motivation to participate
Poor generalization of strategies following the program	<ul style="list-style-type: none">-Provide opportunities for group members to freely interact in order to promote a sense of community-Provide the option for group members to share contact information in order to be a support for others outside of the program meetings-Provide handouts on time management to assist with scheduling parent-child play interactions at home-Provide handouts with examples on how to implement exercises at home during normal routines and with common household items
Recruit for program personnel positions	<ul style="list-style-type: none">-Recruit online and at universities for volunteers interested in healthcare, and for undergraduate and graduate occupational therapy students to assist with scoring or assessments-Collaborate with the author's current employment site to incorporate assisting with proposed program into Level II graduate student responsibilities

Program Overview

Play 4 Parents is an education and training-based program that focuses on helping parents of children with ASD become more competent play partners. Over the course of five weeks parents will participate in an in-person group training program that educates parents on factors affecting parent-child play interactions and provides opportunities to practice strategies that could enhance parent-child play interactions. Program content will be taught through a variety of approaches, including but not limited to, direct teaching, video examples, group discussions, and practice activities. Through participation in the program it is hypothesized that parents will feel more competent engaging in play with their child and will experience a decrease in stress.

CHAPTER 4: PROGRAM EVALUATION PLAN

Program Scenario

Play 4 Parents is intended to be an education-based training program for parents of children with ASD with the goal of increasing parental sense of competence during play. The program is designed to be a small in-person group training program that occurs for a total of five weeks, one hour per week. The program will incorporate a range of learning strategies including direct teaching, simulated activities with peers, and weekly practice activities. For the first two years the author will deliver the program herself, but by year three the author plans to train other occupational therapists who have a background in relationship-based therapy and sensory integration to deliver the program. Results from the program will be used to educate other healthcare providers about the importance and benefits of coaching parents to be more effective play partners.

Vision for the Program Evaluation Research

Play 4 Parents program evaluation will focus on gathering both quantitative and qualitative data. While quantitative data will provide measurable data comparing parental sense of competence and stress levels prior to participation in the program and completion of the program, qualitative information will focus on the program process and reflection about changes in parent-child play. Following completion of the program it is expected that parents will experience greater sense of competence in their play skills and will more frequently engage in play interactions effectively with their child. This will in turn assist in child development and strengthen the parent-child relationship.

The long-term goal for the program evaluation is to increase awareness and

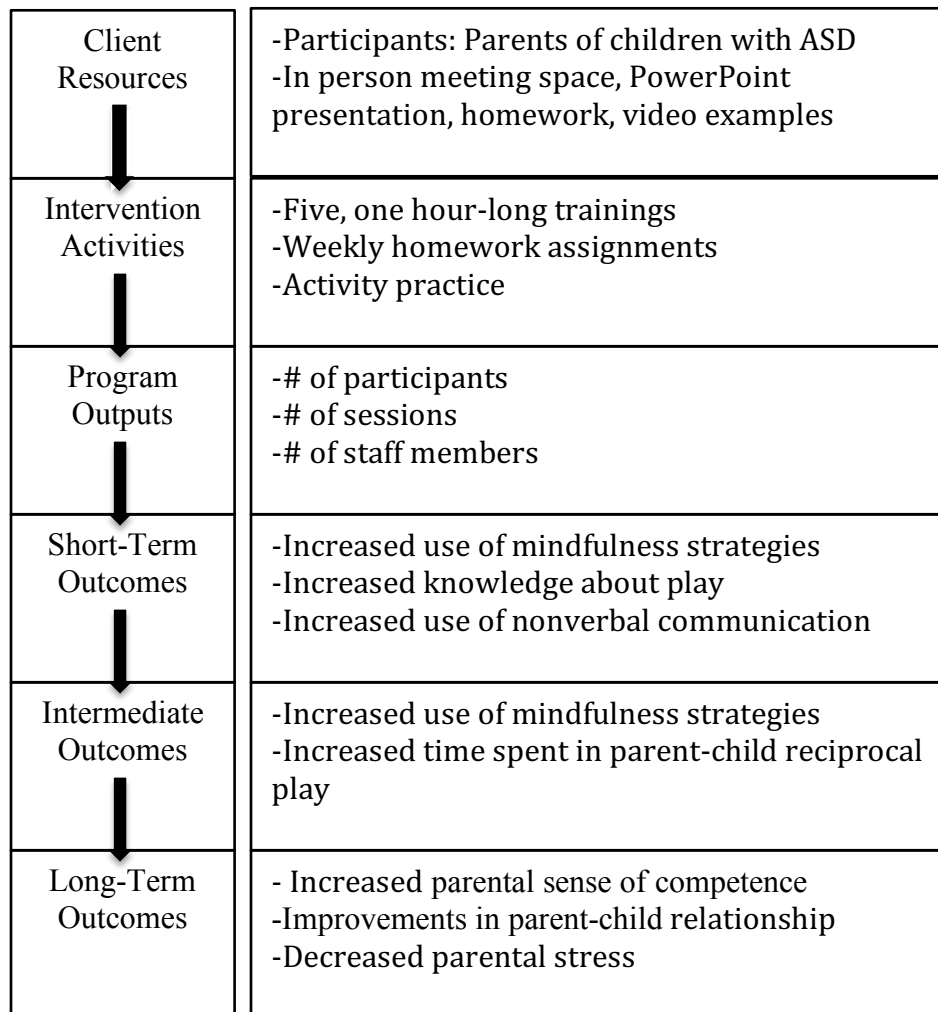
advocate for parent-training. This includes increasing awareness amongst other companies who can then advocate for parent participation in the program and potentially be trained to implement the Play 4 Parents program. Program evaluation can also be used to advocate for changes in policies and increase support from insurance companies.

Engagement of Stakeholders

The author plans to promote support for Play 4 Parents from a wide range of stakeholders. The groups of stakeholders include parents, occupational therapy centers, occupational therapists with a focus on DIRFloortime and sensory integration, policy makers, and funding agencies. The purpose of having a variety of stakeholders is to gain input and support from those who would be directly impacted by the program, gain input from other therapists with similar interests and experiences, as well as gain input from individuals who can help implement policy change. The author will directly call and/or e-mail letters to the individuals to invite them to the initial meeting in order to personally connect with each potential stakeholder. An in-person meeting will occur with stakeholders in order to identify any questions or concerns they may have and discuss program changes that may need to occur prior to program implementation. If individuals are not able to attend the in-person meeting they will be able to conference call in via Zoom. When stakeholders arrive at the meeting they will each have a folder with handouts for them to reference while the presentation is occurring as well as to reference following the meeting. At the meeting, a PowerPoint presentation will be given discussing the author's background, why the program is important, research that has been conducted thus far, as well as an overview of the program. In order to help stakeholders

further understand the program and its importance, visual models will be presented. One visual will include a logic model that describes program inputs, outputs, and outcomes. Figure 4.1 shows a visual representation of the logic model. Following the presentation, stakeholders will have an opportunity to share their questions, concerns, and ideas. Having stakeholders share their ideas and concerns can give them a personal connection with the program and help guide the author's research and thought process.

Figure 4.1 Simplified logic model



Stakeholder Program Evaluation

Following completion of initial program implementation and data collection, a follow up meeting with stakeholders will occur. The meeting will focus on reviewing results with stakeholders and identifying if the program met the objectives and goals. The follow up meeting will also be used to identify any changes to program that may need to occur prior to future program implementation. Table 4.1 describes research questions that can help evaluate program development.

Table 4.1

Stakeholder research questions

Stakeholder or Stakeholder Group	Types of Program Evaluation Research Questions
Individuals involved in program delivery	<p>Qualitative:</p> <ul style="list-style-type: none">• Was the information presented in a clear and logical manner?• Is the duration of the program adequate?• Was the pace of instruction optimal for learning?• Were there any aspects of the program that should be changed or additional information that should be added? <p>Quantitative:</p> <ul style="list-style-type: none">• Did participants gain knowledge consisted with program purpose?• Did participants gain skills consisted with program purpose?• Did participants of the program gain increased confidence engaging in play?
Parents	<p>Qualitative:</p> <ul style="list-style-type: none">• Were program objectives clearly explained?• Was the format of the intervention program clear to understand?• Do the topics discussed seem important and relevant to the program's purpose?• Are there additional topics that should be included? <p>Quantitative:</p> <ul style="list-style-type: none">• Do parents demonstrate a decrease in stress levels at the conclusion of the program?• Do parents demonstrate greater play competency at the conclusion of the program?

Facility/ Educational Centers/ Occupational therapists with training in DIR Floortime and Sensory Integration	Qualitative: <ul style="list-style-type: none"> • Was the overview of relationship-based therapy and sensory integration clear? • Was there information that should be included or altered in order to better demonstrate the program purpose and goals? • Were program objectives clearly explained? • Is information taught in a logical manner? Quantitative: <ul style="list-style-type: none"> • Did participants demonstrate increased knowledge in the program content? • Are the program objectives met?
Funding Agencies/Advo cates/ Policy Makers	Qualitative: <ul style="list-style-type: none"> • Are the outcomes of the program clear to understand? • Will the program increase awareness on the importance of parent education and the importance of play? Quantitative: <ul style="list-style-type: none"> • Can the data be used to demonstrate changes in the healthcare system? • Were the short- and long-term outcomes of the program achievable?

Research Design

The author's program design can be described as a one-group quasi-experimental pre-test-post-test design. This means that one group of participants will complete a set of pre-tests prior to participating in the intervention. They will then participate in an intervention and complete a set of post-tests. Pre-test and post-test results can then be compared in order to assess changes following participation in the intervention. Measures will focus on gathering information about stress levels and parental sense of competence. All assessments will be completed via an online format in order to increase the speed of response return, accessibility, and increase organization of data analysis.

A formative design will be used in order to assess why participants wanted to participate in the program and if the topics discussed in the program were beneficial to

participants. It will also assess if the techniques used for learning were considered beneficial to the participants. In order to gather information participants will have the opportunity to answer open-ended questions at the start and conclusion of the program.

Methods

The program participants will consist of six to eight parents of children with ASD. Participants must have a child with an ASD diagnosis between the ages of two years old to eight years old. Participants must speak and understand English. The purpose of the small group is to promote group collaboration during all sessions. In order to protect privacy, each participant will be given an ID number, which will be used when completing his or her program evaluation questionnaires. Names and ID numbers will be kept in a locked file cabinet that only the author has the key to access.

Formative or Process Research Data Gathering

Formative program evaluation data gathering will be conducted at the conclusion of the program. The purpose would be to gather information on how participants felt about program delivery, gain feedback about the information presented, as well as the order in which the information was taught. Participants will be able to relay if there is other information they feel would be important to include in the program. Information will be gathered via open-ended questions that will be part of post-test surveys.

Participants will access the surveys via an online platform such as Survey Monkey

Formative or Process Data Management and Analysis

The triangulation method will be used to increase accuracy of data analysis. The two methods that will be used to analyze data will be manual review of information

gathered as well as the use of an online platform. Manual review will include two to three occupational therapy graduate students reviewing all open-ended questions in order to identify and compare themes that may arise. An online platform such as MAXQDA will be used to analyze the information received. Once all information has been analyzed by both graduate students and the online platform, results will be compiled in order to assess similarities in result analysis.

Summative or Outcome Research Variables and Measurement

A pre-test-post-test single group quasi-experimental program evaluation research design will be used to collect data on several dependent factors that are hypothesized to impact parent play skills. These include parent stress levels and parental sense of competence. In order to identify parental sense of competence, the Parental Sense of Competences scale, PSOC, will be used and Parenting Stress Index Fourth Edition (PSI-4) will be used to measure parenting stress. Additionally, a survey has been created by the author in order to assess parent perceptions on knowledge of play and parent-child play interactions. An example of the survey can be found in the facilitator manual in [Appendix E](#).

Summative or Outcome Data Management and Analysis

In order to descriptively analyze the summative data, an online database such as excel will be used. The mean score for each outcome measured will be calculated both pre-test and post-test. Pre-test and post-test scores will be compared in order to identify changes occurring within the group of participants. The standard deviation will also be calculated, in order to assess where participant scores fall in comparison to the mean.

Disseminating the Findings of Program Evaluation Research

Following conclusion of the program, results and evaluation of the research will be produced in order to present to stakeholders. This will occur during an in-person meeting with stakeholders. Informing stakeholders about the program results will be important in order to maintain their support, both financially and for advocacy purposes. The information will be presented in multiple ways. For example, a presentation will be given that gives an overview of results, presents data in a table or graph form so it is clear to follow, and recommendations for future program implementations will be noted. Additionally, a printed outline will be given to stakeholders for them to review with the presentation and reflect on following the meeting. The outline will be one to two pages maximum in order to keep the information condensed and make it easy and convenient to review. Additionally, in order to advocate for policy change, individuals involved in policy change must understand the impact the program can have. To help individuals personally connect with the Play 4 Parents program, participant narratives will be included in program evaluation overview. The narratives will be taken from participant responses on the pre-test and post-test surveys. It will allow stakeholders to understand why individuals sought out the program and how the program impacted them. All narratives shared will be anonymous in order to maintain participant confidentiality.

Furthermore, in order to promote participation in the program following initial program implementation, a parent friendly pamphlet or flyer will be created. Information on the flyer will be written in simple or defined terms in order to make the information parent friendly and clear to understand. Information provided will include the purpose of

the program, objectives that will be met, and an easy to read table demonstrating results.

Additionally, in order to help other parents relate personally a section with participant testimonials will be included. The flyer will be one page long in order to increase its appeal to parents.

CHAPTER 5: FUNDING PLAN

Program Summary

The proposed training program, Play 4 Parents, is an educational training tool that aims to increase parental sense of competence with play and improve parents' ability to act as effective play partners with their children with ASD. Through education, practice, and group support it is anticipated that parents will be able to gain skills and knowledge to improve parent-child play interactions. In order to participate in the program parents must commit to attending all five weeks of training. Teaching topics addressed in the program are based on a literature review that identified factors affecting parents' ability to play affectively. Teaching topics include: role and importance of play, understanding sensory processing and its impact on play, communication strategies during play, and mindful parenting.

Program Implementation

During the first two years of implementation, Play 4 Parents will be implemented as a research study in order to identify the effectiveness of the intervention. Therefore, there will be little to no revenue coming in from the program. As a small group program that uses common play materials, the output cost to implement the program is minimal. Following the two years of research, the author plans to increase program implementation and promote the program as an evidence-based parent-training program. During this time individuals will begin to pay to participate in the parent-training. The author also plans to increase program marketing after the first two years and consult with other companies in order to implement the program around the United States. The information provided in

this chapter identifies the proposed funding plan for the first two years of program implementation.

Available Resources

Play 4 Parents was developed as part of the author's enrollment in the post-professional occupational therapy doctorate program at Boston University. Related course assignments contributed to program development by providing structure and time to develop materials and teaching concepts. Program advisors, professors, classmates, and friends assisted in program development by providing feedback and sharing resources. Additionally, friends and family members have offered to donate toys and materials to assist with program implementation. In order to initially recruit participants the author plans to use free social media platforms, such as Instagram and Facebook.

Budget Description

An anticipated budget was developed based on the plan that Play 4 Parents will run three times a year for the first two years. In order to successfully implement the program items such as facility rental and assessments must be purchased. Table 5.1 provides a detailed description of budget items and proposed cost for each item.

Table 5.1*Budget item description*

Budget item	Description/justification	Expenses Year 1	Expenses Year 2
Facility Rental	During Year 1 the author will rent a location to conduct the program. Although the program is one hour long, space will be rented for two hours to accommodate for prep and clean up. For each course, space will be rented once a week for five weeks. It is anticipated that by Year 2 the author will conduct the program out of her place of practice for reduced cost.	\$2,000	\$500
Program Developer	Play 4 Parents was developed as part of a post-professional occupational therapy doctorate program. Therefore, the program was developed with no direct cost. During the first two years the author will donate her time to continue developing and optimizing the program.	\$0	\$0
Program Instructor	Program instructor(s) will be paid per course (\$1,000 per course). This cost includes time for instruction, prep, and analysis of data. During the first two years the author will act as the program instructor. Following the first two years colleagues will be trained to instruct courses as well.	\$3,000	\$3,000
Volunteers for child care	Volunteers will be recruited from local occupational therapy college programs in order to provide child care during parent training.	\$0	\$0
Assessments/Surveys	In order to gather data two standardized assessments and an author-made survey will be completed by participants. The Parent Sense of Competence Scale (PSOC) can be found for free online, and the author's survey will be created for free as well. Parental stress will be measured using the Parental Stress Index-4 th edition (PSI-4), which will be purchased. According to WPS (2018), a one time purchase of the online software will be need (\$752), as well as online assessments. The cost for online assessments is based on the purchase of 50 packets per year.	\$963	\$211
Refreshments	This item describes snacks and beverages that will be provided at each session. The budget describes the cost based on a maximum budget of \$20 per session.	\$300	\$300
Information packets	Each participant will be provided a printed information packet. Each printed packet will include copies of the PowerPoint slides, as well as weekly homework assignments to complete. The cost in Table 5.2 describes the estimated cost of packets for 24 participants per year.	\$500	\$500
Graduate volunteers for data analysis assistance	Occupational therapy students will be recruited from local colleges in order to assist with data analysis based on assessment and survey responses. This position will be on a volunteer, and/or internship basis.	\$0	\$0
Equipment and IT	Equipment for instructor presentations will include microphone, projector, projector screen, computer, white board, and white board markers/erasers. All equipment will be purchased as part of the initial set-up during Year 0. Additionally, in order to create presentations, handouts, and analyze data, the author will use Microsoft Word, PowerPoint, and Excel, which she already owns.	\$3,500	\$500
Dissemination activities	This describes the cost estimated for activities related to sharing program findings and results. Details on dissemination activities can be found in Chapter 6.	N/A	800
Total cost		\$12,563	\$8,811

Potential Funding Sources

In order to fully implement Play 4 Parents, the financial cost for Year 1 is \$12,563 and for Year 2 is \$8,811. This equals a total cost of \$21,374 for the first two years. Financial support from outside sources will be needed in order to successfully implement the program. Several funding sources have been identified, including grants and fellowships that can assist with the financial cost of the program. For example, the Organization for Autism Research and Developmental Pathway Grants are two funding sources that could assist with program implementation. A more detailed description of funding sources can be found in [Appendix A](#). Funding provided by the sources described in [Appendix A](#) will assist with purchasing equipment, funding publications, and paying personnel.

Conclusion

Play 4 Parents is an in person, small group, parent-training program focused on enhancing parent sense of competence during parent-child play. The first two years of the program are intended as a research phase, where no revenue will be brought in through program implementation. In order to financially sustain the program, several funding sources have been identified. Through donations, fellowships, and grants the initial start-up costs and financial cost for the research phase can be obtained.

CHAPTER 6: DISSEMINATION PLAN

Proposed Program

Children with autism spectrum disorder (ASD) often experience significant challenges with play, which impact the development of many other skills. Children spend a large amount of time at home and children with ASD will therefore rely on their parents to play a vital role in promoting play participation. Parents also have the ability to adapt their play skills to meet the needs of their child. A review of the evidence-based literature found that there are several factors impacting parents' ability to act as effective play partners. The proposed program, Play 4 Parents, is a five-week parent-training program that uses evidence-based strategies to enhance parent-child play interactions. Teaching topics address the role of play, sensory processing, communication styles, and mindful parenting.

Target Audience for Dissemination Activities

The Play 4 Parents program is delivered to a small group of parents of children with ASD. In order to share the program with a wider array of people, the target audience for distribution of findings would be to industry leaders working with clients with ASD. Therefore, the primary audience for the dissemination plan is occupational therapist practitioners who work with children with ASD in the United States. The secondary audience is interdisciplinary healthcare practitioners who work with children with ASD in the United States. This includes, but is not limited to, speech therapists, DIRFloortime practitioners, and mental health professionals. By targeting these individuals, the hope is that information taught in Play 4 Parents will spread to larger

groups and beyond the limited participants of initial program implementation.

Dissemination Goals

Assuming the initial implementation of Play 4 Parents is a success, this chapter provides a dissemination plan of how the author plans to distribute findings and results to healthcare professionals in the field. The specific goals the author hopes to achieve following program dissemination are provided in this next section. Indicators of success for each goal can be found in Table 6.4.

Long-Term Goals

1. Dissemination of the program results to primary and secondary audiences of occupational therapists and other healthcare professionals working with children with ASD will lead to an increase in healthcare professionals using parent coaching and training as a means to improve play skills and play participation for children with ASD.
2. Dissemination of the program results will lead to the program gaining credibility as an evidence-based intervention for training parents of children with ASD.

Short-Term Goals.

1. Dissemination of the program results to the primary audience of occupational therapy practitioners who work with children with ASD will lead to an increase in occupational therapy practitioners' knowledge of evidence-based strategies to promote play skills for children with ASD.
2. Dissemination of the program results to the secondary audience of interdisciplinary healthcare practitioners who work with children with ASD and

their families will lead to an increase in interdisciplinary collaboration to promote occupational engagement amongst parents of children with ASD and their children.

Key Messages for Target Audience

For the Primary Audience of Occupational Therapy Practitioners Who Work with Children with ASD

1. Following participation in the Play 4 Parents program, parents reported an increase in perceived parental sense of competence, a decrease in parent-reported stress levels, and improvements in parent-child play interactions.
2. Occupational therapy practitioners play a vital role in educating and coaching parents about the use of evidence-based strategies to promote reciprocal play interactions.
3. By helping parents become more effective play partners to their child with ASD, occupational therapists can improve quality of life and occupational engagement for both parents and children.

For the Secondary Audience of Interdisciplinary Healthcare Professionals Who Work with Children with ASD in the United States

1. Healthcare professionals who work directly with children with ASD and their families play an essential role in increasing parent knowledge and perceived sense of competence to use therapeutic strategies at home when engaging with their child with ASD.

2. By increasing knowledge of therapeutic strategies, parents of children with ASD reported feeling less stressed.
3. Following participation in the Play 4 Parents program, parents reported that when engaging in play interactions with children in a therapeutic manner, children would demonstrate improvements with language skills, problem solving, and initiation of social interactions.

Sources/Messengers

For the Primary Audience of Occupational Therapists who Work with Children with ASD

STAR Institute for Sensory Processing Disorder. STAR Institute for Sensory Processing Disorder (SPD) is a 501(c)(3) non-profit organization that strives to improve the quality of life for children, adolescents, and adults with sensory processing disorder. Star Institute for Sensory Processing Disorder was founded in 2016 after two organizations, SPD Foundation and STAR Center, merged. SPD Foundation was originally founded by Dr. Lucy Jane Miller in 1977. Currently, STAR Institute for Sensory Processing Disorder offers a range of therapeutic services including but not limited to occupational therapy, feeding therapy, speech therapy, and parent coaching (STAR Institute, 2020). The foundational treatment approach and models used at STAR Institute align with the proposed program, Play 4 Parents, as both use strategies and approaches based on sensory processing and relationship-based therapy. More information about STAR Institute for Sensory Processing Disorder can be found at the organization's website, <https://www.spdstar.org/basic/vision-mission-history> (STAR

Institute, 2020).

**For the Secondary Audience of Interdisciplinary Healthcare Professionals Who
Work with Children with ASD in the United States**

Leadership Education in Neurodevelopmental and Related Disabilities

(LEND). Leadership Education in Neurodevelopmental and Related Disabilities (LEND) is an interdisciplinary leadership-training program. It is funded by the Maternal and Child Health Bureau of the federal government and takes place in 52 locations (West Chester Institute of Human Development, n.d.). The author previously participated in the LEND fellowship program at West Chester Institute of Human Development, alongside audiologists, speech therapists, post-doctoral psychology fellows, parents of children with disabilities, and self-advocates. The author plans to contact the program director in order to collaborate with the program and/or act as a guest speaker in order to spread awareness about Play 4 Parents to LEND participants.

Dissemination Activities

Following initial program implementation, a variety of activities will be performed in order to share program results and findings to the primary and secondary audiences. Activities will include in-person lectures, presentations, and written publications. A detailed description of these activities can be found in [Appendix B](#).

Dissemination Budget

The resources needed to distribute the findings and results from Play 4 Parents program implementation require a large time investment rather than a financial support, as summarized in Table 6.1.

Table 6.1*Dissemination budget*

Dissemination activity	Estimated time	Estimated expense	Justification
Short course at the American Occupational Therapy Association (AOTA) 2021 conference	It is anticipated that it will take 30 hours to prepare, modify, and present a short course at AOTA 2021.	\$800	<p>AOTA provides each short course presenter with all necessary equipment, such as laptop, Microsoft Office, audio amplifier, projector, screen, and microphone. Since the conference occurs in a different state each year, each presenter must pay for flight and hotel stay (AOTA, 2020).</p> <p>The AOTA 2021 conference is expected to occur in San Diego, CA. Based on a Google flight and hotel search, it is anticipated that a round trip flight and hotel stay will be around \$800.</p> <p>At a rate of \$45/hr. for 30 hours for an occupational therapist to prepare and present at the conference, the estimated expense is \$1,350. By completing the program as part of the Boston University post-professional OTD program, the actual cost is \$0.</p>
Written article in the <i>Special Interest Sections (SIS) Quarterly Practice Connections of OT Practice</i>	It is anticipated that it will take 20 hours to write and modify the article for publication.	\$0	<p>At a rate of \$45/hr. for 20 hours for an occupational therapist's time to draft and submit an article, the estimated cost is \$900. By completing this project as part of the Boston University post professional OTD program, the actual cost is \$0.</p> <p>There does not appear to be additional costs to publish an article in Special Interests Sections Quarterly Practice Connections supplement to OT Practice (AOTA, 2020).</p>
Written publication in the journal <i>Autism</i>	It is anticipated that it will take 20 hours to write and modify the article for publication.	\$0	<p>At a rate of \$45/hr. for 20 hours for an occupational therapist's time to draft and submit an article, the estimated cost is \$900. By completing this project as part of the Boston University post-professional OTD program, the actual cost is \$0.</p> <p>There does not appear to be additional costs by the author for publication (Sage Journals, n.d.).</p>

Person to Person: Guest Speaker for LEND at West Chester Institute of Human Development	It is anticipated that it will take 15 hours to create and prepare a short presentation for LEND participants.	\$0	At a rate of \$45/hr. for 15 hours for an occupational therapist's time to draft and submit an article, the estimated cost is \$675. For the presentation the author plans to use a laptop and projector that is provided by West Chester Institute of Human Development. By completing this project as part of the Boston University post professional OTD program, the actual cost is \$0.
Total cost	\$800		

Evaluation

All dissemination activities will be evaluated in order to identify if the activities were successful. Table 6.2 describes methods of activity evaluation for success. Measurements will also be taken to assess if long-term and short-term dissemination goals have been achieved. Table 6.3 describes indicators of success for dissemination goals.

Table 6.2

Activity evaluation

Dissemination activity	Indicators of success
Presentation: short course at the American Occupational Therapy Association (AOTA) 2021 conference	Acceptance to present a short course at AOTA 2021.
Written: article in the <i>Special Interest Sections (SIS) Quarterly Practice Connections</i> of <i>OT Practice</i>	Acceptance of at least one publication into the <i>SIS Quarterly Practice Connections</i> of <i>OT Practice</i> within one year following program implementation.
Written: publication in the journal <i>Autism</i>	Acceptance of at least one <i>Autism</i> publication within one year following program implementation.
Person to Person: Guest Speaker for LEND at West Chester Institute of Human Development (WIHD)	A presentation at LEND WIHD within one year after program implementation.

Table 6.3*Indicators of success for long-term and short-term goals*

Goal	Indicators of success
<p><i>Long-term goal</i> Dissemination to primary and secondary audiences will lead to an increase in healthcare professionals using parent coaching and training as a means to improve play skills and play participation for children with ASD.</p>	<ul style="list-style-type: none"> Occupational therapy practitioners who attend the author's short course at the AOTA annual conference will complete a short survey at the conclusion of the course. Survey topics will include perception of knowledge gained, identifying strategies that impact parent-child play interactions, and if information shared was beneficial. Although results will include a small sample size of occupational therapists who work with children with ASD, it will be an indication of a trend towards greater OT participation in parent coaching.
<p><i>Long-term goal</i> Dissemination of program results will lead to the program gaining credibility as an evidence-based intervention for parent-training for parents of children with ASD.</p>	<ul style="list-style-type: none"> By year three, the program occurs at least four times a year, across multiple geographies.
<p><i>Short-term goal</i> Dissemination of program results to the primary audience will lead to an increase in occupational therapy practitioners' knowledge of evidence-based strategies to promote play skills for children with ASD.</p>	<ul style="list-style-type: none"> Correspondence with occupational therapy organizations that work with children with ASD, in order to identify if there has been an increase in parent coaching and training. A questionnaire will be distributed in order to identify changes in frequency of parent coaching and strategies used during parent coaching. Complete a literature search at least three years following publication, in order to identify strategies used by occupational therapists during play-based interventions and parent-training programs. Identifying at least seven articles that discuss evidence-based strategies for parent coaching will be considered successful.
<p><i>Short-term goal</i> Dissemination of program results to the secondary audience will lead to an increase in interdisciplinary collaboration in order to promote occupational engagement amongst parents of children with ASD and their children.</p>	<ul style="list-style-type: none"> Correspondence with organizations working with children with ASD, in order to identify if there has been an increase in parent coaching and training by healthcare professionals. A questionnaire will be distributed in order to identify changes in frequency of parent coaching and strategies used during parent coaching.

Conclusion

Play 4 Parents is a parent-training program that uses evidence-based strategies to promote parent-child play interactions. The program focuses on increasing parent knowledge and skills to promote more effective play interactions between parent and child, through a variety of learning tools, such as direct teaching and activity practice. Following successful implementation of the program, the author intends to share program results to other healthcare professionals who work with children with ASD, including occupational therapists, speech therapists, and mental health professionals. Through dissemination activities, such as presentations and article publications, it is believed that occupational therapists, as well as interdisciplinary healthcare workers who work with children with ASD, will have increased knowledge to use parent coaching effectively. Additionally, it is anticipated that dissemination of program results will lead to Play 4 Parents gaining credibility as an evidence-based intervention for training parents of children with ASD.

CHAPTER 7: CONCLUSION

Play is an activity that children participate in every day. It impacts the development of many skills, such as gross motor skills, social skills, and communication skills (Lee et al., 2016). Children with autism spectrum disorder (ASD) have difficulty participating in play successfully. They engage in more repetitive play, have challenges playing functionally and difficulty with symbolic play (Naber et al., 2008). In order to improve play skills, children can benefit from playing with a more skilled play partner, such as parents; however, parents of children with ASD experience higher levels of stress (Cachia et al., 2016) and have difficulty effectively communicating to their child with ASD (Freeman & Kasari et al., 2013), which impacts their ability to act as effective play partners.

Occupational therapy practitioners can help parents become more competent play partners by educating and coaching them. Through education and coaching, parents can then support their children in the development of more complex play skills. Literature reviews and clinical expertise have shown that there is an expectation for the therapist to provide direct therapy services to the child with limited opportunities for parent education. Additionally, research has found that parents tend to focus on structured activities, rather than create opportunities for unstructured play interactions (Watchman & Spencer-Cavaliere, 2017). While past research has focused on incorporating parents into the therapeutic process, limited research has simultaneously addressed the additional stress parents experience by providing parenting needs as well as therapeutic strategies for their child. In order to best support the parent and child, it is important to both

empower parents to use therapeutic tools and help them manage the additional stress that comes with that responsibility. By focusing on parents and increasing their knowledge and perceived sense of competence to use therapeutic strategies during play, children with ASD could have more opportunities to gain and practice play skills across multiple settings. Therefore, it is essential to provide parents with the necessary skills to support their children, as well as skills to support their own mental and physical health.

This project aims to directly support parents by focusing on parent education and skill acquisition through a small (6–8 participants) in-person parent-training course. The program, called Play 4 Parents, consists of four key learning topics that focus on increasing parent knowledge on play, improving reciprocal communication, increasing understanding about sensory processing and its impact on play, and the importance of acting mindfully during play. Although children will not be present during the training sessions, parents will have the opportunity to practice strategies through simulated activities with peers and group discussions. Furthermore, parents will have weekly homework assignments that will focus on incorporating strategies at home during parent-child play interactions.

Following participation in Play 4 Parents, it is hypothesized that parents will report an increase in perceived sense of competence, decrease in stress, and improvements with parent-child interactions. In order to evaluate program outcomes, a combination of quantitative and qualitative measures will be used. The Parental Sense of Competences scale (PSOC) and Parenting Stress Index fourth edition (PSI-4) will be used to assess perceived sense of competence and stress, respectively. Additionally, a survey

created by the author, which can be found in [Appendix E](#), will be used to understand parent perceptions on play and their parent-child interactions, as well as evaluate program format and content.

Following initial implementation of Play 4 Parents, program findings and results will be distributed to healthcare professionals working with children with ASD. This includes, but is not limited to, occupational therapy practitioners, speech therapists, and mental health workers. Information will be shared through a variety of activities, such as presentations and publications. Since each Play 4 Parents training session consists of a small group of parents, dissemination activities will be addressed to healthcare professionals working with children with ASD. It is anticipated that through this approach more healthcare professionals will use evidence-based strategies to promote parent-child interactions, therefore helping a wider array of parents of children with ASD. Additionally, by sharing program results and findings, it is anticipated that Play 4 Parents will gain credibility as an evidence-based intervention for training parents of children with ASD. Play 4 Parents aims to transition the typical therapy approach from direct therapist-child interactions to parent-child interactions, while simultaneously addressing parent needs in order to help both the parent and child succeed. By empowering parents to use therapeutic strategies on their own children can be supported 24/7 and not only when attending therapy sessions.

APPENDIX A: FUNDING SOURCES

Funding Source	Description
The American Occupational Therapy Foundation (AOTF) Intervention Research Grant (IRG):	The AOTF IRG aims to advance the science of occupational therapy in order to support individuals' participation in meaningful activities. A maximum of \$50,000 can be received through the grant. The IRG has supported many occupational therapists in the past. Examples of research topics supported by this grant include supporting caregivers of hematopoietic cell transplant patients and environmental problem solving for parents of youth with disabilities (The American Occupational Therapy Foundation, 2020).
Organization for Autism Research	Organization for Autism Research focuses on increasing knowledge and resources around Autism. The organization has funded more than \$4 million in Autism research. Researchers can apply to receive up to \$40,000 for one to two-year grants. Past research topics that have been funded include, anxiety in preschool children with ASD, parent-training programs, and strengthening the sibling bond between children with ASD (Organization for Autism Research, 2020).
Developmental Pathway Grants	Developmental Pathways is a 501(c) (3) non-profit based in Colorado. The focus of the organization is on serving children with developmental disabilities and their families. Developmental Pathways provides grants to both non-profit and for-profit providers. The maximum grant amount an individual can receive is \$100,000 (Developmental Pathways, 2020).
Simons Foundation Autism Research Initiative (SFARI):	SFARI launched in 2006 and aims to fund research in order to increase understanding and diagnosis of ASD. Supported projects are expected to provide early support for exploratory ideas and novel hypotheses of Autism. SFARI has a yearly budget of about \$78 million. Past research funded with assistance of SFARI have included topics such as, evaluation of treatment measures, understanding social learning in children with ASD, and analyzing ASD genes. SFARI has several different grant awards, including a pilot award and research award. The pilot award is for novel research ideas and individual can be awarded a maximum of \$300,000 across a two-year period. The research award can provide financial support of \$1,300,000 for up to a four-year period. (Simons Foundation).
Graduate Women in Science	This program aims to promote science and research by women who are currently enrolled or received a degree from an institution of higher education. Grants are rewarded for up to a 12-month period.

(GWIS) National Fellowships Program:	Individuals can request up to \$10,000 to support the costs of equipment and publications of research findings (Graduate Women in Science).
Postdoctoral Research Leave Fellowships:	The Postdoctoral Research Leave Fellowships are part of the American Leave Fellowships. This program supports women who are pursuing full time study to complete dissertation or conducting postdoctoral research. The purpose of this fellowship is to enable recipients to spend a year pursuing independent research. A total of \$30,000 can be received through this fellowship (AAUW).
Partnership with local occupational therapy clinics	The author plans to collaborate and partner with local occupational therapy clinics. In exchange for implementing the program at the clinics, the clinics will provide financial support to cover the cost of the space, instructor, refreshments, and teaching materials.

APPENDIX B: DISSEMINATION ACTIVITIES

Dissemination activity	Target audience	Description	Priority/timing
Short course at the American Occupational Therapy Association (AOTA) 2021 conference	Primary: Occupational therapists working with children with ASD	The American Occupational Therapy Association (AOTA) hosts an annual conference where occupational therapy practitioners can present posters, short courses, or larger lectures. Occupational therapists who attend the short course for Play 4 Parents will gain information about evidence-based strategies for parent coaching in order to promote parent-child play, as well as review results from previous program implementation.	Priority level: high Presenters for the AOTA annual conference submit the application to present about a year in advance. Therefore, presenters should be known about 18 months in advance. It is anticipated that Play 4 Parents will be implemented at least one time prior to the conference.
Written article in the <i>Special Interest Sections (SIS) Quarterly Practice Connections of OT Practice</i>	Primary: Occupational therapists working with children with ASD	<i>OT Practice</i> is a professional publication within the American Occupational Therapy Association (AOTA). All AOTA members can access the publication. It includes special interest sections including children & youth, education, health & wellness, productive aging, rehabilitation & disability, and work & industry. The <i>SIS Quarterly Practice Connections</i> is mailed four times a year as a supplement to <i>OT Practice</i> . In order to be considered for publication the article must be reviewed by the SIS editor and the AOTA committee (AOTA,	Priority level: high Providing information with the primary audience will be essential after implementation of the proposed program, Play 4 Parents. It is anticipated that it will take several months between the initial review of the article from the SIS editor and AOTA committee. Therefore, the article should be written and submitted within one year of initial program implementation and data analysis.

		2020).	
Written publication in the journal <i>Autism</i>	Secondary: Interdisciplinary professionals working with children with ASD	<i>Autism</i> is a peer-reviewed international journal. It is published eight times a year. It includes research focused on autism and autism related disorders. The publication is intended to be interdisciplinary and focuses on many areas of practice, such as training, education, quality of life, and intervention. The journal publishes a range of articles including research reports, review articles, short reports, and letters to the editors (SAGE Journals, n.d.).	Priority level: medium Due to the peer-review nature of the journal, it is anticipated that there will be several months between initial article submission and publication. The initial article submission should occur within one year of program implementation and include information about program implementation and data analysis.
Person to Person: Guest Speaker for LEND at West Chester Institute of Human Development	Interdisciplinary professionals working with children with ASD	Leadership Education in Neurodevelopmental and Related Disabilities (LEND) is an interdisciplinary leadership-training program. Participants include but are not limited to occupational therapists, speech therapists, audiologists, and mental health professionals. The program is funded by the Maternal and Child Health Bureau of the federal government and occurs at 52 locations. (West Chester Institute of Human Development, n.d.).	Priority level: low As a previous LEND participant the author plans to contact the director of the program at West Chester Institute of Human Development, in order to talk to participants about the proposed program Play 4 Parents. The author plans to implement this activity within the first 18 months following program implementation.

APPENDIX C: EXECUTIVE SUMMARY

Introduction

By age eight, one in 59 children nationally is diagnosed with autism spectrum disorder (ASD) (Autism Speaks, 2018), which is a developmental disability that can lead to social, communication, and behavioral challenges (CDC, 2019). For example, children with ASD engage in more repetitive play (Naber et al., 2007), and tend to initiate and respond to play interactions less frequently (Childress, 2011).

Parents of children with ASD can play an essential role in assisting in child play development due to the large amount of time parents and children spend together during the child's younger years. Additionally, the relationship parents have with their children impact many areas of life, including participation in joint play (Levi, Finzi-Dottan, & Cope, 2019). Based on literature reviews, there are several factors hindering parents' ability to act as effective play partners. Parents of children with ASD experience higher levels of stress, which negatively impacts their health and their ability to implement therapeutic strategies at home (Cachia et al., 2015). Additionally, parents of children with ASD experience greater challenges effectively communicating during play. Parents tend to ask more questions and have trouble playing at the same level as their child, which leads to shorter play interactions (Freeman & Kasari, 2013). Helping parents become more effective play partners would lead to positive changes for both parents and children with ASD.

Project Overview

Through the development of a parent-training program, Play 4 Parents, seeks to

address the difficulties parents experience when engaging in play with their children with ASD. In order to best support parents, the program was created as an in-person small group training course. A literature review identified factors impacting parent play skills: (1) knowledge of play, (2) understanding of sensory processing, (3) mindful parenting, and (4) use of effective communication. Play 4 Parents uses a range of evidence-based strategies to enhance parent knowledge and play skills. Through participation in the program, it is anticipated that parents of children with ASD will experience an increase in perceived sense of competence, a decrease in stress, and improvements in parent-child play interactions.

Key Findings

In order to better understand what approaches have been used to help parents with play skills previously, a review of past interventions was conducted. Previous interventions have been separated into three categories: (1) parent-mediated interventions, (2) parent education programs, and (3) mindfulness-based interventions.

Parent-Mediated Interventions

Parent-mediated interventions typically included a healthcare professional, child, and parent. The interventions often consisted of at least two components; direct interactions and a parent coaching aspect. The interventions often focused on improving child outcomes by helping parents become more responsive to the child's actions (Shire et al., 2016). A systematic review by Dammann et al. (2017) identified common strategies used during parent-mediated interventions, such as modeling of therapeutic strategies, parent practice, and feedback. Through parent-mediated interventions,

children experienced positive outcomes, including more time in joint attention (Shire et al., 2016), improvements with language development (Siller et al., 2013), and improvements with play skills (Dammann et al., 2017).

Parent-Education Interventions

Education-based interventions typically included the parents only and focused on increasing parent knowledge. Education-focused interventions addressed a variety of topics, such as sensory processing (Gee et al., 2016) and understanding ASD (Magana et al., 2017; Zand et al. (2018). Positive outcomes were found following parent participation in education-based interventions, including increased self-efficacy (Gee & Peterson, 2016; Zhou et al. 2019), increased parental sense of competence (Kuravackel et al., 2017), and decreased stress and anxiety (Zhou et al., 2019).

Mindfulness Interventions

Research has found that parents of children with ASD experience high levels of stress, which has negative impacts on both the parents and their children. According to Dykens et al. (2020) when parents of children with disabilities are highly stressed, they have greater challenges implementing interventions, impacting the progress their child makes. Through participation in mindfulness-based interventions, parents reported a decrease in stress (Dykens et al., 2020; Singh et al., 2019; Singh et al., 2007). A common approach found in mindfulness-based interventions was the opportunity to incorporate strategies into day-to-day life.

Limitations in Current Research

While interventions separately addressed parent responsiveness, parent education, and mindfulness, no intervention incorporated all three aspects. The demand to simultaneously manage parenting demands and implement therapeutic strategies at home can add additionally stress to parents. Therefore, it is important to not only help parents act in a more therapeutic manner, but also educate them on the importance of the play strategies they are using, as well as provide them strategies to manage increased stress.

Furthermore, generalization of research outcomes is limited. Interventions typically included a small sample size and a limited demographic of participants. Participants were primarily Caucasian, mothers, married, and of higher socio-economic status. Therefore, results may not generalize to a more diverse population

Recommendation for Program Implementation

The proposed program, Play 4 Parents, is an in-person, group-based parent-training program that uses theory and evidence-based strategies to help parents become more effective play partners to their children with ASD. The program consists of five sessions, one session per week, with a two-week break between week four and week five. The purpose of the break is to give participants the opportunity to incorporate strategies and ideas into their daily lives. Each training session will last for one hour and have three main components: (1) direct education, (2) video review, (3) learning activity. Additionally, homework will be provided every week to provide parents the opportunity to incorporate weekly lessons and strategies into their play interactions at home with their

children.

Play 4 Parents will be instructed by an occupational therapist with training in sensory processing, relationship-based therapy, and mindfulness. In order to participate in the program participants must meet the following eligibility criteria: (1) must be parents of at least one child with ASD, (2) the child must be between the ages of two to eight years old, and (3) parents must be able to read and speak English.

Program Outcomes and Data Collection

Play 4 Parents aims to increase parental sense of competence during parent-child play interactions, decrease perceived parental stress, and improve the quality of parent-child play interactions. In order to assess outcomes and conduct a program evaluation, a combination of qualitative and quantitative measures will be used. In order to gain better understanding of parent perspectives on stress levels, parent-child interactions, and program format and content, the author created a survey for parents to complete. Parents will complete two parent report measures in order to assess changes in parental sense of competence and perceived stress. The standardized measures include the Parental Sense of Competence scale (PSOC) and the Parenting Stress Index-fourth edition (PSI-4). The PSOC is a 17 question self-report measure that uses a six-point Likert scale. The PSOC assesses two components of parental sense of competence, including satisfaction and efficacy (Cohn et al., 2011). The PSI-4 is for parents of children ages one year to twelve years of age and screens for stress within the parent-child relationship (Abidin, 2018).

Program Dissemination

Following initial implementation of the program Play 4 Parents several activities

will be implemented in order to share results with other healthcare professionals working with children with ASD. Dissemination activities include presenting a short course at the American Occupational Therapy Association (AOTA) annual conference, writing publications for various magazines and journals, and presenting a lecture for Leadership Education in Neurodevelopmental and Related Disabilities (LEND), an interdisciplinary fellowship program. Through these activities it is anticipated that occupational therapy practitioners as well as interdisciplinary professionals working with children with ASD and their families will feel more confident using evidence-based strategies to coach parents to be more effective play partners.

General Conclusions

Parent-child play interactions have many benefits for both children with ASD and their parents, however parents of children with ASD experience difficulties acting as effective play partners. Through small group training that incorporates education, activity practice, and group collaboration, the proposed program, Play 4 Parents, aims to help parents become more competent and effective play partners for their children with ASD. By improving parent play skills, children with ASD can have greater opportunities to increase skills developed through play, such as attention, problem solving, communication, and social emotional skills.

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APPENDIX D: FACT SHEET



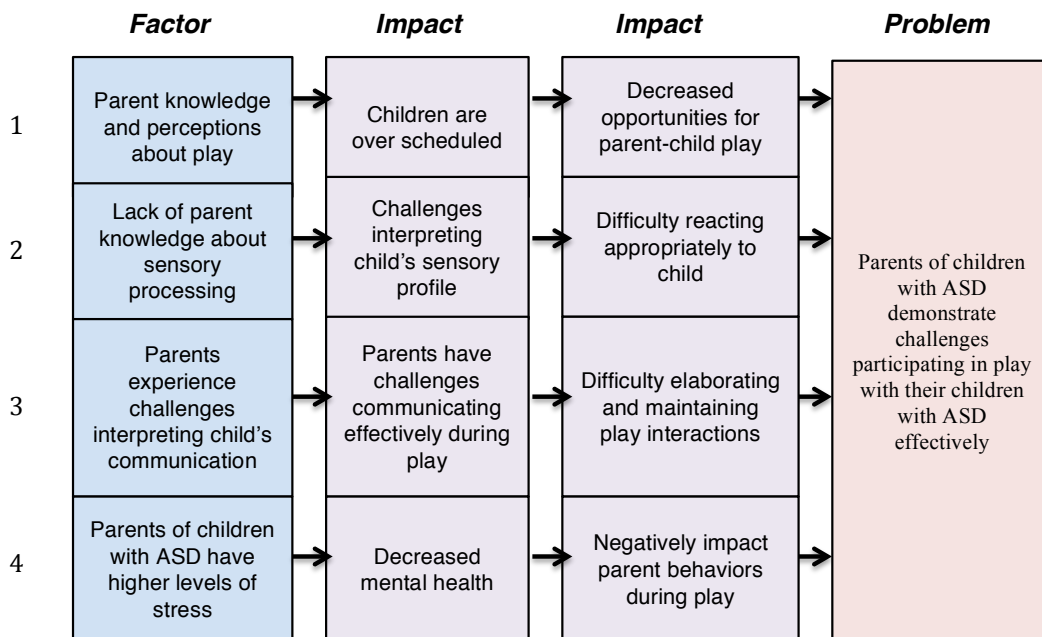
Play 4 Parents: A Training Guide to Enhance Parent Participation in Play

Julie Yaroni MS, OTR/L
OTD Candidate

Area of Concern

Play is an activity that children participate in daily; however children with ASD have difficulty engaging in play successfully. Parents can play an essential role assisting in play development, but due to several contributing factors, parents of children with ASD have difficulty acting as effective play partners to their children.

Visual Model



Supporting Research

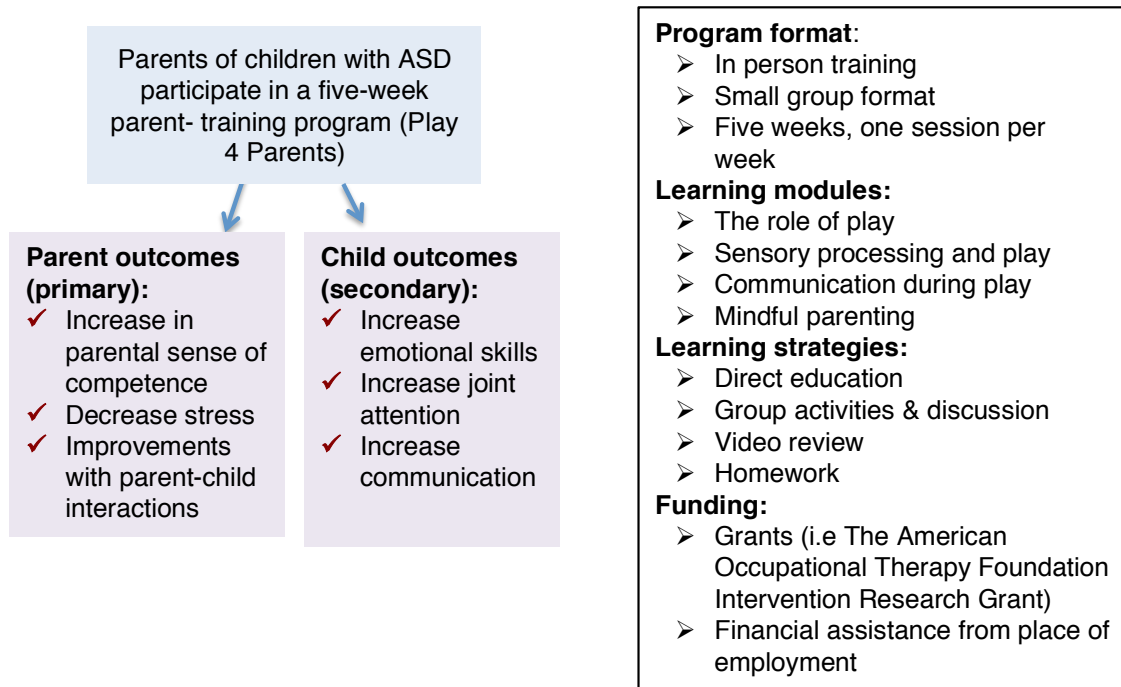
- Parents' misguided perspectives, pursuit of winning, overscheduled lifestyles, and over-protection lead to less free play for children (Watman & Spencer-Cavaliere, 2017).
- Using commands when playing with children with ASD leads to shorter play interactions (Freeman & Kasari, 2013).
- Parental stress reduces the effectiveness of parents generalizing therapy skills to the home environment (Cachia et al., 2015).



Play 4 Parents: A Training Guide to Enhance Parent Participation in Play

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Proposed Solution: Play 4 Parents



Impact on Occupational Therapy

- ✓ Play is a co-occupation, therefore occupational therapy practitioners should support both the child and parent in order to promote parent-child play.
- ✓ Educating occupational therapy practitioners on the importance of parent training on play can lead to more OTs using evidence based training to promote parent-child play interactions.
- ✓ Through dissemination of program results and findings, Play 4 Parents can gain credibility as an evidence-based parent-training course.

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APPENDIX E: FACILITATOR MANUAL

Play 4 Parents

Facilitator Manual Draft

By: Julie Yaroni MS, OTR/L

Program Outline

Week 1: The role of play

- A. Course Objectives
- B. Presentation
- C. Homework

Week 2: Sensory processing and play

- A. Course Objectives
- B. Presentation
- C. Homework

Week 3: Communication during play

- A. Course Objectives
- B. Presentation
- C. Homework

Week 4: Mindful parenting

- A. Course Objectives
- B. Presentation
- C. Homework

Two Week Break

Week 5: Review

- A. Course Objectives
- B. Presentation

Sample of Parent surveys

Week 1: The Role of Play

Objectives

1. Participants will be able to identify at least three benefits of play.
2. Participants will be able to identify at least two factors impacting play.
3. Participants will identify at least two benefits of parents participating in play.

Materials needed

- Snacks and refreshments
- Computer and screen for presentation
- Videos for presentation
- Copy of handouts for parents (originals are in facilitator packet)

Room set up

- Chairs should be in a semi-circle so participants can see the lecturer as well as each other. Chairs should be able to be adjusted throughout the session for activity practice and group discussion

Presentation Outline

Introduction

- Lecturer and participants should introduce themselves.
- Focus should be on developing rapport and a sense of community

Objectives

- Increase understanding about why play is important
- Identify factors affecting participation in play
- Increase knowledge about why parents are important in play development

Questions

- **3 practice questions in game parent knowledge and introduce topics**
- **Example:** Which of the following are types of play (Answer: E)
 - A: Exploratory play
 - B: Purposeful play
 - C: Functional play
 - D: B&C
 - E: A&

What is play?

- Begin by asking participants what they think play is
- Play is fun
- Play helps develop many skills
 - Gross motor skills
 - Fine motor skills
 - Problem solving
 - Communication skills

Types of play (Flippin & Watson, 2011)

- Exploratory play
 - Emerges 6–12 months
 - Investigate the properties of toys
- Relational play
 - Emerges 6–12 months
 - Combine toys (i.e. stacking blocks)
- Functional play
 - Emerges 12–16 months
 - Toys are used as intended (i.e. using a toy cup to drink)
- Symbolic play
 - Emerges 16–30 months
 - Substitute one object for another, use imaginary characteristics, and expand play schemes

- After reviewing the types of play take 1–2 minutes and have parents think and reflect about what level their child plays at currently

Play & ASD (Dammann et al., 2019; Flippin & Watson, 2011)

- Children with ASD tend to demonstrate more **repetitive play**
- They spend more time in **exploratory play** than symbolic play
- Children with ASD often have more difficulty engaging with **both** the object and the person

Benefits of parent participation in play (Dammann et al., 2019)

- Parents can help children generalize skills outside of therapy sessions
- Is it less expensive for parents to provide treatment at home
- Parents can slow down play, model, adjust activity level
- Children can learn from more skilled play partners

Factors affecting play

- Understanding how an individual's sensory system impacts play
- How we communicate to our children during play
- Being mindful and present during play
- * The purpose of this slide is to introduce the topics that will be discussed in the upcoming weeks

Homework (example found on next page)

Questions

Week 1: Homework Example

- 1. About how many times this week did you participate in parent-child play? On average how long did each play session last?**

- 2. What types of games did you play (i.e pretend play, board game, blocks)? Briefly describe the interaction between you and your child during each category of play.**

- 3. Please share at least one example of when you felt both you and your child were having fun together.**

Week 2: Sensory Processing and Play

Objectives

1. Parents will be able to identify the eight sensory systems
2. Parents will identify at least two ways that an individual's sensory system can impact play participation
3. Parents will identify at least two strategies to adapt the environment or activity to assist with a sensory processing challenge

Materials needed

- Snacks and refreshments
- Presentation including videos for examples
- Materials for simulated activities (i.e trampoline, headphones, music)
- Copy of handouts for parents

Room set up

- Chairs should be in a semi-circle so participants can see the lecturer as well as each other. Chairs should be able to be adjusted throughout the session for activity practice and group discussion

Presentation Outline

Reflection from week 1

- Split into small groups (2–3 per group) and reflect on your play sessions that occurred over the last week
- Topics to consider
 - Were similar challenges experienced
 - Is there a common theme in types of games played at home?
 - How were you each feeling during the play sessions?
 - What types of games were found to be the most successful?
 - Was it easy to find time to play?

Session objectives

- Participants will be able to identify the eight sensory systems.
- Parents will identify at least two ways that an individual's sensory system can impact play participation.
- Participants will identify at least two strategies to adapt the environment or activity to assist with sensory processing challenges.

5 common senses

- Auditory
- Visual
- Gustatory
- Tactile
- Olfactory

3 mystery senses

- **for each of the 3 sensory systems show a short (max 2 minutes) clip showing each system in action*
- Vestibular
 - Provides individuals with information regarding their **spatial orientation** and **head placement**
 - Affects balance, posture, movement
- Proprioception
 - provides individuals with information regarding body awareness based on **information provided by their joints or muscles.**
 - Helps an individual understand how much force and pressure to exert for specific tasks
 - Example: picking up an empty cup vs a cup full of coffee
- Interoception
 - What is happening inside of the body
 - Knowing when you are hungry or have to go to the bathroom

Sensory processing

- How an individual interprets sensory information
- Affects how an individual views the world
- May be referred to as sensory processing disorder (SPD) when it impacts an individual's participation in daily activities
- Compared to typically developing children, children with ASD are more likely to experience sensory processing challenges
- Comprised of 3 subtypes: sensory modulation, sensory-based motor, sensory discrimination

Sensory modulation disorder

- How one interprets sensory information
- Over-responders
- Under-responders
- Cravers

Sensory-based motor disorder

- Dyspraxia
 - Planning
 - Executing a task
 - Problem solving
 - Expanding ideas
- Postural

Sensory discrimination disorder

- Understanding specific information about sensory information
 - Where did the noise come from?
 - How does an item feel?
 - What does the food smell like?

Group discussion

- Reflect on sensory preferences of participants
 - Are there certain things they like? Certain inputs that irritate them?
 - What do they do to manage their sensory preferences?
- Reflect on general strategies to address sensory processing challenges
 - Use of visual schedule to help with planning and organizing
 - Playing in a room with less visual distractions for a child who gets distracted easily
 - Providing movement in the morning to help wake a child up before sitting and attending in school

Homework (example provided on next page)**Questions**

Week 2 Homework Example

A. Get to know your sensory system: Fill in the chart below and identify likes and dislikes and/or challenges within each sensory system. Try to complete it as best you can.

Sensory System	Likes/how it helps	Dislikes/challenges
<i>Auditory</i> <i>(Hearing)</i>		
<i>Visual</i> <i>(Sight)</i>		
<i>Olfactory</i> <i>(Smell)</i>		
<i>Gustatory</i> <i>(Taste)</i>		
<i>Tactile</i> <i>(Touch)</i>		
<i>Vestibular</i> <i>(Body positioning/balance)</i>		
<i>Proprioceptive</i> <i>(Feedback from muscles & joints)</i>		
<i>Interoception</i> <i>(Feelings inside of the body)</i>		

B. Your child's sensory system: Now complete the same chart with information about your child. Try to complete the chart as best you can.

Sensory System	Likes/how it helps	Dislikes/challenges
<i>Auditory</i> <i>(Hearing)</i>		
<i>Visual</i> <i>(Sight)</i>		
<i>Olfactory</i> <i>(Smell)</i>		
<i>Gustatory</i> <i>(Taste)</i>		
<i>Tactile</i> <i>(Touch)</i>		
<i>Vestibular</i> <i>(Body positioning/balance)</i>		
<i>Proprioceptive</i> <i>(Feedback from muscles & joints)</i>		
<i>Interoception</i> <i>(Feelings inside of the body)</i>		

C. To complete with peers during first part of week 3

In small groups reflect on how you and your child's sensory system impacts play time. Are there sensory differences between you and your child? For example, does your child love to get messy but you find that difficult? Do you enjoy activities with spinning but cannot get your child to participate in them?

Next, work with your peers and identify 2–3 adaptations you can make to the environment or activity in order to help improve parent-child playtime, based on the sensory profile of you and your child.

1.

2.

3.

3: Communication During Play

Objectives

1. Participants will identify at least two different styles of communication to promote reciprocal play interactions
2. Participants will identify at least two benefits to using non-verbal communication during play

Materials needed

- Snacks and refreshments
- Presentation including videos for examples
- Materials for simulated activities (i.e., cars, blocks, pillows)
- Copy of handouts for parents

Room set up

- Chairs should be in a semi-circle so participants can see the lecturer as well as each other. Chairs should be able to be adjusted throughout the session for activity practice and group discussion

PRESENTATION OUTLINE

Week 2 Review

- In small groups participants will complete part C of assignment
- Answer questions about homework or course information

Communication

- Nonverbal vs verbal communication
- Ask for examples of verbal and nonverbal communication
- Ask participants if they notice a difference in interactions with others based on the use of verbal and nonverbal communication

Communication & play based on research

- Parents of children with ASD have difficulty matching their child's level of play (Freeman & Kasari, 2013)
- Parents of children with ASD use commands and questions during play compared to parents of typically developing children (Freeman & Kasari, 2013)
- Using commands and questioning during play leads to shorter back and forth play interactions (Freeman & Kasari, 2013).
- Mother-child play tends to be more verbal and didactic while father-child play tends to be more active and complex (Flippin & Watson, 2011)

Video examples

- 2 videos: a parent using a lot of verbal communication when playing with child, and a parent using more non-verbal communication when playing with child
- Questions to consider:
 - What differences were observed in the play interactions
 - Example of verbal communication and nonverbal communication
 - Were the types of verbal communication the same in both videos? (one video should have more questioning while the other has more narration or statements that don't require an answer)

Activity practice & discussion

- In small groups or partners practice different communication strategies in simulated activity (one person is the child, the other is the adult)
 - Focus should be on using more imitation, modeling, narration
- Group discussion following practice
 - Was it hard to not use questions during play?
 - Did you notice a difference in the interactions when using different communication strategies?

Homework (example provided on next page)

Questions

Week 3: Homework Example

Record and review at least 1 play session between you and your child this week.

When watching the video pay attention to the following:

- Who is initiating the activities?
- What does your communication look like (questions, commands, gestures, modeling, etc.)?
- Do you notice if a certain style of communication leads to more back and forth interactions than another form?
- When watching the video do you notice more communication invitations from your child that you may have missed during the play session (i.e eye contact or a gesture that was not initially recognized).
- What does your reaction look like if your child did not respond to your communication in the way you anticipated? For example, did you become frustrated and end the activity, repeat yourself until your child responded, or change the way you communicated?

Please share a short reflection about you and your child's communication during play.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface.

Week 4: Mindful Parenting

Objectives:

1. Participants will be able to identify at least three benefits of mindful parenting
2. Parents will identify 4 out of 6 constructs of parent responsiveness
3. Participants will be able to identify at least two strategies to improve mindful parenting

Materials

- Snacks and refreshments
- Presentation
- Handouts

Room set up

- Chairs should be in a semi-circle so participants can see the lecturer as well as each other. Chairs should be able to be adjusted throughout the session for activity practice and group discussion

Presentation Outline

Reflection from Week 3

- Questions from homework assignment

Session objectives

- Participants will be able to identify at least three benefits of mindful parenting
- Parents will identify 4 out of 6 constructs of parent responsiveness
- Participants will be able to identify at least two strategies to improve mindful parenting

Mindful parenting

- Paying attention to your child and your parenting in a **specific and purposeful way**, being in the **present moment**, and being **non-judgmental** in your actions (Cachia et al., 2016)
- Recognizing how YOU feel
- Considering the needs of both yourself and your child

Strategies to promote mindfulness

- Body scanning
 - Get in touch with what is happening to your body
- Sensory system awareness
 - Focus on one sensory system at a time: what do you smell? What do you see? What are you touching?
- Breathing Techniques
 - Blow out the candles, finger breathing
- Mindful movements
 - Move your body in different ways and notice how it feels (stomping, silly movements, quiet movements)
- *Short group practice of each strategy

Parent responsiveness (Ruble et al., 2008)

- Six aspects of parent responsiveness:
 - Contingency: quick response that relates to the child's prior actions
 - Directedness
 - Parent affect (warm responsiveness)
 - Parent initiations towards the child
 - Parent use of movement to increase proximity to the child
 - 6. Ability to maintain or support joint interaction

Promoting parent responsiveness

- Show interest in the child's actions
- Focus on maintaining engagement

- Join in the play

Homework (example provided on next page)

Questions

Group discussion to prepare for 2-week break

- What do you plan to focus on during the break?
- Break should focus on incorporating strategies into daily play interactions

Module 4: Homework

3. *Sensory play and mindful parenting:* Pick a sensory-based activity for you and your child to participate in together (i.e. play in the sand). Focus on the 5 senses (sight, taste, sound, touch, smell). Write them down. How did they make you feel? How did they make your child feel? Did any of the sensations impact your play?

2. During your play sessions this week focus on being in the **present moment**. Forget about other responsibilities, dinner, errands, etc. Set a timer during play session and for the amount of time you set truly focus on being present during the play. Try to aim for a minimum of 5–10 minutes of uninterrupted play, if you think you can manage for a longer period of time do so. Share a short reflection of the play sessions.

Week 5: Review

Objectives

1. Clarify any questions parents have
2. Review information from all modules
3. Reflect on experiences utilizing learned strategies at home

Materials

- Snacks and refreshments
- Presentation
- Handouts

Room set up

- Chairs should be in a semi-circle so participants can see the lecturer as well as each other. Chairs should be able to be adjusted throughout the session for activity practice and group discussion

Presentation Outline

Reflections

- Share any positive play experiences over the two-week break that they would like to share?
- What strategies did you implement over the two-week breaks to help promote play interactions?
- Did any questions come up over the break in terms of course content covered?
- Any general questions or reflections?

Small group activity

- Break up into small groups and discuss a case-study
- Case study example 1: Sally is a 3-year-old girl with ASD. Sally loves to run, jump, and crash into objects. Mom and dad typically try to play games like blocks, coloring, and dolls. The room they play in is big and mom and dad report that Sally is constantly running away from them. Mom and dad are feeling very frustrated and would like some advice.
 - A: What kind of activities would you recommend mom and dad try to play with sally?
 - B: How can mom and dad help sally stay in the play space?
- Example 1 discussion points
 - Back and forth games including jumping and crashing (i.e. chase)
 - Simple patterns with a start-end (run and jump into pillow tower)
 - Play in a space with less visual distractions (put up a gate, use a couch or household material to create a boundary)

Questions

Parent Survey 1
(To be completed prior to starting the program)

1. Do you have a child with ASD?

- A. Yes
- B. No

2. On a scale of 0–10 how knowledgeable do you feel about the concept of play (for children) and why it is important?

0	1	2	3	4	5	6	7	8	9	10
(not knowledgeable)						(very knowledgeable)				

2. On a scale of 0–10 how difficult is it for you to engage in back and forth play with your child?

0	1	2	3	4	5	6	7	8	9	10
(very difficult)						(not difficult)				

3. On a scale of 0–10 is it difficult for you to focus on the present moment during parent-child play?

0	1	2	3	4	5	6	7	8	9	10
(very difficult)						(not difficult)				

4. How often do you play with your child?

- A. Multiple times a day
- B. Once a day
- C. Every Other day
- D. Other

5. What type of play activities do you typically play with your child?

6. Please describe a typical play session between you and your child. Include specific information such as who is present, where the play session takes place, length of play sessions, and toys/activities used.

Parent Survey 2

(To be completed after all sessions are completed)

1. Do you have a child with ASD?

A. Yes

B. No

2. On a scale of 0–10 how knowledgeable do you feel about the concept of play (for children) and why it is important?

0	1	2	3	4	5	6	7	8	9	10
(not knowledgeable)						(very knowledgeable)				

3. On a scale of 0–10 how difficult is it for you to engage in back and forth play with your child?

0	1	2	3	4	5	6	7	8	9	10
(very difficult)						(not difficult)				

4. On a scale of 0–10 is it difficult for you to focus on the present moment during parent-child play?

0	1	2	3	4	5	6	7	8	9	10
(very difficult)						(not difficult)				

5. How often do you play with your child?

A. Multiple times a day

B. Once a day

C. Every Other day

D. Other

6. What type of play activities do you typically play with your child?

7. Please describe a typical play session between you and your child. Include specific information such as who is present, where the play session takes place, length of play sessions, and toys/activities used.

8. A. Have you noticed any changes in parent-child play since participating in this program?

C. Yes

D. No

B: If yes, please list specific changes you have noticed? Try to be as detailed as possible to help understand what has changed.

9. A. Is there anything you were hoping to learn that was not touched upon?

A. Yes

B. No

B: What other information do you feel would be important do include?

10: Any additional comments?

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